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ABSTRACT

One of a series of state-of-the-art papers, this monograph focuses upon the reasons for stressing listening in a language arts program. Listening is defined according to six approaches: comparative, ostensive, classificational, structural, operational, and synonymic. Some past and current ideas concerning a taxonomy of listening skills are discussed as to the dimensions of these skills, their prerequisites, ways of classifying them, and a method for formulating skills into learner objectives and arranging them into tentative hierarchies. Examinations are made of criticisms and rationales for listening tests in general, standardized tests, unpublished tests, publishers' informal assessments which accompany their instructional materials, and informal devices such as coding sheets, standards, and checklists. Selected published and unpublished materials designed for various types of instruction, goals, and populations, starting with the young child, are reviewed, and studies and ideas on various teaching techniques are presented. Research references, annotated when appropriate, are given at the end of the report for all chapters. An appendix gives some sample listening lessons from the Thinking Improvement Project (TIP). Figures and other illustrations are given throughout the text. (This document previously announced as ED 057 030.) (CK)

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LISTENING
ITS IMPACT ON READING AND THE OTHER LANGUAGE ARTS

Sara W. Lundsteen

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LISTENING
ITS IMPACT ON READING AND THE OTHER LANGUAGE ARTS

Knowledge is of two kinds: we know a subject ourselves, or we know where we can find information upon it.

—Samuel Johnson

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ITS IMPACT ON READING AND THE OTHER LANGUAGE ARTS

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FOREWORD TO THE SERIES

The National Center for Educational Research and Development (NCERD—formerly the Bureau of Research) of the United States Office of Education has in recent years considerably expanded its support to basic and applied research in education. It has also made possible and encouraged the dissemination of findings and conclusions. As the body of information derived from research has expanded, however, so has the gap between research and classroom teaching. Recognizing this problem, NCERD has charged ERIC (Educational Resources Information Center) to go beyond its initial function of gathering, evaluating, indexing, and disseminating information to a significant new service: information analysis and synthesis.

The ERIC system has already made available—through the ERIC Document Reproduction Service—much informative data, including all federally funding research reports since 1956. However, if the findings of specific educational research are to be intelligible to teachers and applicable to teaching, considerable bodies of data must be reevaluated, focused, translated, and molded into an essentially different context. Rather than resting at the point of making research reports readily accessible, NCERD has now directed the separate ERIC Clearinghouses to commission from recognized authorities state-of-the-art papers in specific areas.

Each state-of-the-art paper focuses on a concrete educational need. The paper attempts a comprehensive treatment and qualitative assessment of the published and unpublished material on the topic. The author reviews relevant research, curriculum trends, teaching materials, the judgments of recognized experts in the field, reports and findings from various national committees and commissions. In his analysis he tries to answer the question "Where are we?"; sometimes finds order in apparently disparate approaches; often points in new directions. The

knowledge contained in a state-of-the-art paper is a necessary foundation for reviewing existing curricula and planning new beginnings.

NCTE/ERIC, with direction and major substantive assistance from its Advisory Committee, has identified a number of timely and important problem areas in the teaching of English and has commissioned state-of-the-art papers from knowledgeable members of the profession. It is hoped that this series of papers, each subject to review by the National Council of Teachers of English Committee on Publications, will provide a place to stand. The next step is the lever.

Bernard O'Donnell
Director, NCTE/ERIC

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INTRODUCTION

The intention of this monograph is to build some bridges between what is said about listening in several disciplines or schools of research and the needs of the classroom teacher. Listening is important but we do not appear to know much about it, or how to teach it, or how to integrate it with the other language arts.

Little about listening methodology is supported with reliable and replicated research findings. This conclusion is not so much an indictment of experimenters as it is a reflection of the complexities of listening, children, teachers, and the classroom instruction and environment. It is impossible to encompass, moreover, the breadth of available data on listening. Probably all research, for example, employing speech using listening individuals gives some information about listening. Consequently, although references are given to some studies and to other reviews of research literature (some by the present author), this report represents in large part the predispositions, hunches, point of view and opinion of one teacher-researcher. Accordingly, there is a preference for a cognitive or thinking emphasis.

Today's educator is looking for more than mere "how to do it," cookbook-type of solutions. He knows the challenges facing today's schools are too complex to be solved by simple revision of administrative procedures or more efficient ways to do what is wrong in curriculum. And products which promise "instant" results are thrown into the "circular file." Educators are looking for ideas solidly grounded in basic and applied scientific research. While they look for ideas that are practical and feasible, they also look for ideas that are not simplistic—ideas of intelligent men and women designed to be discussed and used by other intelligent men and women. This monograph is dedicated to these people.

Much of this report is based on work from a book in preparation, *Children Learn to Communicate*, to be published by Prentice-Hall.

Since another aim of this monograph is direct, personal communication, research references (annotated when appropriate) are given at the end of this report for all chapters. This reference list is referred to by author and date within chapters. In this way the stream of discourse is minimally broken by references, yet two important cues are given instead of a meaningless number.

Chapter one, dealing with the priority and value of listening instruction, has several parts: a case stated for the urgency of more attention to listening and a plea for greater systemization in instruction. Chapter two deals with definitions that converge toward a model of proficient listening behavior. Chapter three gives a framework for a taxonomy of listening skills. Chapter four describes measurement available and chapter five annotates and evaluates some current materials and teaching techniques and lists roles suggested by the literature. These roles are those of the school with its principal and consultants, the teacher, and the pupils. The appendix gives some sample listening lessons from the Thinking Improvement Project (TIP).

The author wishes to acknowledge gratefully assistance from the Charles F. Kettering Foundation and also from the University of Texas at Austin and the University of California, Santa Barbara, which enabled collection and abstraction of studies for the early basic work of this monograph. The author wishes to express special appreciation to Alvina T. Burrows and to H. Alan Robinson for their helpful critique and many suggestions for this monograph. Thanks also to Robert C. Harvey for his encouragement, suggestions, many kindnesses, and correspondence concerning this work.

Chapter One

REASONS FOR STRESSING LISTENING IN LANGUAGE ARTS INSTRUCTION

Why Does Listening Command a Primary Position?

Why put listening first in the language arts? For one reason, listening is the first language skill to appear. Chronologically children listen before they speak, speak before they read, and read before they write. Moreover, studies of physiological deprivation—specifically hearing disorders and aphasia or brain damage—point to a progressive sequence or hierarchical interdependence among these language skills (Brown, 1954). For example, reading may depend so completely upon listening as to appear to be a special extension of listening. What child does not read a selection better after hearing and talking about it? A filmstrip or movie dealing with *Tom Sawyer* may help a child through Mark Twain's complex prose to the delightful rewards that await. Reading is normally superimposed on a listening foundation. The ability to listen seems to set limits on ability to read.

The dependence of speaking upon listening is dramatically illustrated by the example of deaf-mutes unable to speak because they are unable to hear. Moreover, without re-education a person who once heard but who becomes deaf may lose his ability to speak within a period of about five years. Writing, in turn, is both directly and indirectly dependent upon listening because of its relation to speaking on one hand and to reading on the other. In an early but important study Heider and Heider (1940) found that compositions of deaf children (eleven to seventeen years) resembled those of normal children about three years younger. The normal children used more compound and complex sentences with a larger number of verbs in coordinate and subordinate clauses; the deaf showed practically no increase in "clause use" with age. The deaf showed less unity in style, less variety, and rarely wrote of what

was a possibility, but rather made simple, flat statements. Quantitative assessment did not reveal the apparent deficit in the whole thought structures for the deaf. (See also Cooper, 1965.)

It is nothing new that listening and speaking have been considered the base for the other language skills and that auditory discrimination has been considered a crucial base for spelling. However, surveys show that professional concern has not necessarily been reflected in language arts materials for children or for teachers. One recent survey shows that less than one percent of the content of texts for children is devoted to lessons on listening (Brown, 1967). A short period of training for reading readiness devoted to discrimination between similar sounds is often the extent of training for listening. Teachers in training usually receive a statement such as this: "The development of language skills proceeds from listening to speaking to reading to writing—in that order." But then the teacher is confronted with instructional materials that seem to forget all about listening and speaking. This neglect seems unwise when listening may be the first step in unlocking progress in any other area related to language—that means science, history, math . . . the whole of education.

Historically, the first studies of listening pointed out the importance of listening by showing the amount of time spent in listening both in and out of school. As most methods texts for prospective teachers in the language arts devote pages to detailing the large amount of time spent in listening activity, this well known argument for increased attention to listening is not developed again here. (See Duker, 1969.) Rather the next section gives attention to probable impacts on people from this mass of listening input.

How Does the Impact of Mass Media Influence Listening?

The importance of listening is based upon several assumptions and speculations:

1. One of our foremost problems today is the influence of mass media designed to produce conformity rather than individuality. Minds and self-pictures are shaped in the same mold as if by a giant cookie cutter.
2. People react because of how they have unconsciously learned to listen.
3. How people have learned to listen strongly affects how they

learn to think and to solve problems. They go to "war" in homes, schools, nations and in the world; or they go to "peace"; or they just muddle along indecisively—at least partly because of how they have learned to listen.

There is cause for alarm when advertisers consider youth "living, talking records of what we tell them every day." By the time a child ends his elementary education chances are that he has spent more time before the TV set than in school. A significant portion of children born after 1945 (brought up in their parents' homes, to be sure) have had their imaginative lives, their daydreams, their expectations of the world created by TV.

There is concern about children's capability in two-way or in multiway communication being developed. "They simply cannot ask questions!" deplores one first grade teacher. Since the TV set cannot answer back, children do not develop skill in inquiry. Children may parrot letters of the alphabet learned on a certain TV program, but be unable to put them to an intelligent use. Children can have no interaction with a TV set, no experience in influencing behavior and being influenced in return. As one writer put it, having a puppy is, in this sense, far more important to a child than having a TV. From ages three to eighteen some 22,000 hours spent in passive contemplation of the screen are stolen from the time needed to learn to relate to brothers, sisters, playmates, parents, grandparents, strangers. (See Gall, 1970.)

Actually, there are probably no complete villains in this story. All may be simply victims of the unforeseen consequences of this technological revolution. The difficulty may not be commercial TV but that we have its messages almost to the exclusion of other possible messages. The problems posed to development of language and thought are particularly relevant to teachers of the language arts. What kinds of programs are good for children and at what ages? Is "Sesame Street" the best answer? This selection represents a request that researchers continue making inquiries.

At the time of this writing HEW's National Institute of Mental Health had funded twenty-three coordinated research projects to focus on the impact of televised violence on the behavior, attitudes and development of children, the medium, the message and the environment of the individual viewer. An annotated bibliography of 300 citations is in progress.

How May Noise Pollution Affect Listening?

Noise pollution appears to affect willingness and ability to give attention to listening stimuli. According to a federal report, the overall loudness of environmental noise is doubling every ten years. Not all sound enters the body through the outer ear; the inner ear is capable of receiving acoustic energy by way of bone conduction and tissue conduction. Intense sound waves can penetrate the skull, the torso, and the groin. Sound causes far more than the sensation of hearing. The sound signal transmitted by the brain goes to almost every nerve center and organ of the body. Sound can influence the entire physical, physiological, emotional, and psychological aspects and responses of the organism. Man resents high noise level as an intrusion into his physical and mental privacy.

Researchers at the Educational Facilities Laboratories in New York hypothesize that disruptive noises influence both the effectiveness and the dignity of teaching. Children in the cooperating Dalton School of New York calmed considerably with the change from the typical noise-box classroom to the school's new sound-treated rooms. The Deputy Health Commissioner of Detroit speculated in a meeting of the American Public Health Association that part of the tension found in city's ghetto riots may be attributed in part to interrupted sleep with noise levels far above that needed for optimum sleeping. Insomnia tends to breed instability. The ears have no lids and are always vulnerable. Hearing, similar to heart-beating, might be said to work twenty-four hours a day.

Noise can cause deafness. Otologists report that prolonged exposure to a noise level above 85 decibels (lower than heavy city traffic) can eventually result in loss of hearing for sounds in the range most crucial for understanding human speech. There are some guesses as to why the danger of amplified music (90 to 105 decibels with peaks at 130) has finally made news. Possibly the motivation stems from genuine concern for young people; possibly it stems from a desire to attack the electric-guitar-playing rebels where it hurts. In any case Thomas Edison suggested that as urban noise continues to grow, the man of the future eventually might be born deaf. A moderate position is that sounds or noise may change physiological states. Until there is knowledge that these repeated changes have little or no effect, mankind should be aware that noise is a possible hu-

man health hazard. But perhaps people with limited foresight (similar to those in England that waited for death from air pollution) would like to delay until blood runs out of the ears. Here is an area needing further research and dissemination among school people with an eventual intent of informing children in much the same way that curriculum specialists are now working with content on ecology and drugs. (See R. A. Brown, 1970.)

Is There a Need for Systematic Instruction?

The last sections gave some reasons for stressing listening and set the stage for implying that growth in general and critical listening skills and understandings is not automatic; if it were, there might be less harm in unconscious assimilations from mass media and other sounds. Intelligence and age do not account totally for growth according to studies designed to promote general and critical listening skills; training helps (e.g., see reviews by Duker, 1969; Olsen, 1966; Russell, 1964). Oakland (1969) inferred that phonemic and nonphonemic auditory discrimination skills may be more closely related to socioeconomic status than to IQ. Children from more culturally disadvantaged homes do not appear to perform as well as their more advantaged peers on the Wepman Auditory Discrimination Test.

Nor does improvement in reading skill automatically result in growth in listening, though there could be some mutual reinforcement. In fact, listening ability, which may exceed reading comprehension among primary pupils, may become less efficient as reading skill and age increase. Finally, adults may be generally the worst listeners of all. Lack of systematic training takes its toll. Bad habits practiced a lifetime are hard to eradicate.

Does Instruction in Listening Improve Reading?

There is some evidence, however, that instruction in listening may bring improvement in reading skill (Devine, 1967, 1968; Duker, 1969; Durrell & Murphy, 1953). Twelve studies covering almost all grade and IQ levels implied that listening instruction may have enhanced reading instruction, especially at first grade level. Five studies, however, one of which was with retarded children and one of doubtful design, implied

that listening instruction did not improve reading skills (Duker, 1968).

A three-year USOE supported project in Alameda County, California, "Reading Improvement through Auditory Perceptual Training," is in progress. It is targeted at children with auditory perceptual problems reading below grade level. This study is mentioned again in more detail in the chapters on materials and techniques. It is intended that data from the project will enable determination of the kinds of auditory perceptual training needed for children with different learning and developmental characteristics.

When it comes to giving instruction in critical listening, if we wait—it may be too late. One early research study of children as young as third/fourth-grade level showed how misconceptions gathered from mass media stereotypes of foreign people appeared to be there to stay. For example, in spite of vivid instruction—films, visitations, discussions—Chinese people were still thought of as being the evil spy or doing laundry (Klee, 1949). If half of all the mental growth a child will ever acquire is possessed typically by the age of about four (Carroll, 1968), it seems unprofitable to delay instruction until college. The state-of-the-art, suggested goals, measurement and directions for critical listening have been detailed in a recent report (Lundsteen, 1969).

There may be temptations to forego systematic instruction in listening for several reasons: the already overcrowded school day, the fact that teachers have never had listening instruction and do not know what to do. Or false analogies may provide an excuse: "You have two legs, so you can walk; you have two ears, so you can listen." (Of course we also have two eyes, but there appears to be considerable concern that Johnny learn to read with them.) Perhaps it is too bad that ears do not wiggle when hearing takes place (as eyes move when we read) for maybe the hidden behavior has made us reluctant to accept the challenge of listening instruction needed for improved communication. But maybe a more valid reason listening has not been given the systematic instruction accorded to reading and to writing is that listening has been poorly defined. The next chapter attempts to do something about inadequate definition.

Chapter Two

WHAT IS LISTENING?

If the goal is to work for improvement of a listening process, it had better be defined as clearly as possible—under the current state of knowledge. Listening, an ambiguous term, is worth some definitional time and effort.

For a quick definition for listening, this one will do: "the process by which spoken language is converted to meaning in the mind." At one end of the objective-subjective continuum listening might be viewed as bringing about a changed view of life producing corresponding changes in actions. Since the definition of listening selected is going to affect teaching, there is no more important question to ask. What is listening?

There are at least six approaches to definition: (1) comparative, (2) ostensive, (3) classificational, (4) structural, (5) operational, and (6) synonymic. As the approach by synonyms and antonyms is not useful when defining "listening," it is omitted. A definition for a word that has specific and general meaning cannot be given unambiguously in a single sentence or even in a brief paragraph. Defining listening is a challenge. There are many unknowns in this problem calling for creativity and for commitment to go beyond what is presented here.

1. Comparative Definition—or, What's It Like?

With a comparative approach to defining listening, the question is: "What's it like?" For example, "cold" may be better understood by defining "hot," "warm," and "tepid." Listening belongs in the comparative context of language processing which includes not only listening but also speaking, reading, and writing.

Reading

There are many links between reading and listening. There is some similarity because both entail receiving a message. "See that bomb," says the speaker and the listener may receive the

message. "See that bomb," expresses the writer, and the reader may receive that type of message. In both cases the person (listener-reader) receives spoken material to decode into meaning.

Initially the process of learning to read may include superimposing the symbol read upon the auditory one. It appears that no one ever reads totally by vision (Edfeldt, 1960). It is likely that most people regress and sound out words when they are difficult or unfamiliar, if the words are important. Also with respect to reading and listening, children need to translate the printed, left-to-right spacial relation into the first-to-last temporal relation of spoken sounds. In addition, from a developmental standpoint, since the information pattern of the sentence found in the native language appears to emerge before lexicalization, the word-used-as-a-sentence probably appears before the word. Consequently in early reading possibly instruction would be more in line with development if emphasis were placed on the word-sentence rather than on the word. Once the child has adequate reading skill, the two receptive processes (reading and listening) should be mutually supportive, development in one enhancing development in the other. There is some evidence that training operates that way. (See studies by Dumdie, by Hill and by Madden in Duker, 1968.)

In the high-level skills of understanding (e.g., comprehending, interpreting, and evaluating) there is another type of relationship between reading and listening skills. Each process makes use of many of the same feelings, background experiences, understandings, and concepts. The mental assimilation processes in going beyond the physical acts of seeing and hearing may be somewhat similar.

But the way sounds are received and translated into meaning through listening is different from the reception of print in reading. The efficiency of intake can be a critical part for instruction designed to improve listening (Horowitz, 1968). This part of the training might include practice in concentration and attention, dealing with noises that mask* or cover up the message, dealing with auditory fatique, and calling up more consciously past background to aid in anticipating the message. Only when the listener is able to perceive accurately what is said is he free to move to the crucial matter of what is meant.

*_Masking_ refers to the ability of one sound to obscure another.

There is so much to be said about the relation between listening and reading that further discussion is best postponed to a later section. Then speaking and writing do not have to wait so long for treatment.

Speaking

Listening is like speaking because both use a code of sounds instead of print. Although listening and speaking are related, research has not established much more than a positive statistical correlation (e.g., studies in Duker, 1968, indexed under "Speech and Listening"; Stark, 1957; Strickland, 1962). Probably it can be assumed validly that the speech used resembles the speech consistently heard. Cazden (1966) gives a review on subcultural differences in children's language. Piaget and scores of others stress the importance of response to verbal environment during the child's first years.

The words in a child's speaking vocabulary are also part of his listening vocabulary. However, a child may be able to use a difficult word in speech or in writing, understand it in listening and reading, but not know it in isolation. Moreover, words a child knows well enough that he understands them when used by another (his listening vocabulary) may not necessarily be mastered adequately for sufficient reading comprehension—even though he has no trouble in recoding print to sound. For example, a sixth grader flounders over this written statement in his language text: "A great society is known ultimately for the monuments it leaves for later generations." His trouble may stem from a narrow meaning he holds in his experience of "snobbery" or "high society" for the word "society" in the sentence. In his experience "monument" may mean only the Statue of Liberty. "Ultimately" he may connect only with "ultimatum." It may be that the words "society" and "monument" are in his listening vocabulary, but he has never used them in his speaking vocabulary.

This example also illustrates that what is printed or spoken is not precisely what the child processes as a product of his reading or listening. Readers and especially listeners often receive what they expect to, rather than what the original message-giver intended (Ammon, 1969). Listening selects from speech. Selection or filtering represents the intrusion of attitude cutting information off at the source—the first distortion. Two

important factors in channeling the message are context and attributing a motive to the speaker—the second distortion. A third distortion may arise in organizing; a fourth may occur when the listener begins to think about the message he wants to formulate and send back, himself. Throughout all of this cognitive and affective activity, irrational and unconscious attitudes are being reinforced, weakened, changed. But attitudes are largely determining the meaning in the mind of the listener. There may be a long, tortuous trail between speaking and listening in the communication act. And, in a reciprocal sense, the listener creates the language of the speaker.

Writing

In the communication circle illustrated in Figure 1, listening is furthest away from and least like writing which is an expressive process transmitting language to the sense of sight. (Generally, people do not talk in the same way as they write.) But while composing ideas in written form, children may speak and listen internally as they record. Inner speech happens also during speaking and reading. Auditory word impressions (or electrochemical impulses) travel not at mechanical or sonic but at electric speeds and may be largely unconscious. Apparently, not only does listening act as the beginning foundation but also continues to operate in each of the other language processes. Consequently improving listening is likely to affect other language skills. However, improvement may not be immediately apparent because of complexity, the slow pace of such growth, and imprecision in our measurement of the language arts. Speaking and writing are skills of transmission while listening and reading are skills of reception.

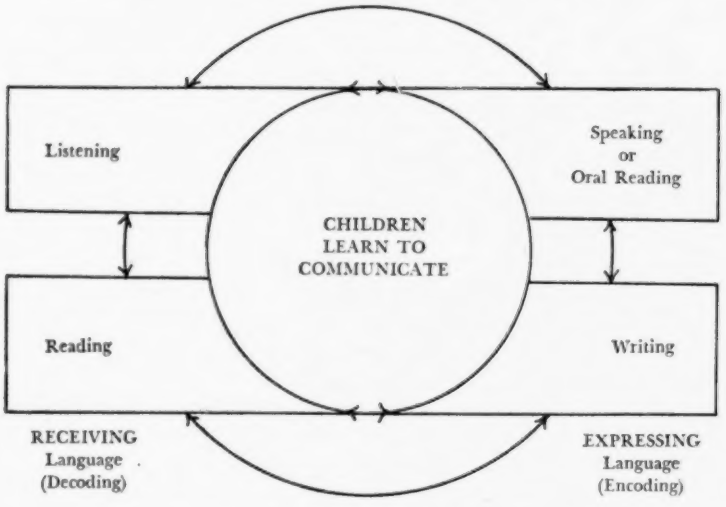
Listening Integrated and Related to Other Language Arts

With further reference to the circle diagram in Figure 1, listening is placed in the beginning position in the upper left-hand corner of the illustration since listening vocabularies are normally learned first. But listening is not in a watertight compartment by itself. Instead, arrows in the diagram show constant interaction. Further, notice the language pairs of receiving discourse on the left and expressing discourse on the right of the diagram. Sometimes, incidentally, the receiving with comprehension is referred to as "decoding" and the expression or sending is referred to as "encoding."

To illustrate, take a child moving through the parts of this diagram. Ted listens to his name being called for a game, or he reads it on the class "taking-turns" chart. In both cases he receives a message—represented by the lefthand side of the model which follows. If Ted then moves over to the game center of the classroom, there is reasonable assurance of the reception; and if he receives no remonstrance, he has increased assurance. On the right-hand side of the model, however, Ted may be calling out (speaking) the name of a player or writing the name for the chart. If the appropriate child responds, Ted may be reasonably sure that he has used adequately the expressive side of the communication model. But conceivably if Ted, as receiver or expresser, had never heard and comprehended the sound symbols that represent the name in the first place, it is doubtful that any kind of communication would get off the ground. That is all this simple model attempts to represent.

Figure 1

Listening Compared to Other Language Arts*



(Language Operates in Pairs in Constant Interaction with Listening Foremost)

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More about the Relationship of Basic Abilities in Listening and Reading

Hearing difficulties bring trouble for reading. (For review of research and discussion on auditory perception in reading see Russell and Fea, 1963, or Harris, 1969.) Children with auditory deficiencies, even minor ones, may have difficulty in hearing certain sounds represented by letters such as "h," even when standing close to the speaker. This deficiency may give the child trouble in the phonics or recoding of sound-letter correspondences while reading. With respect to auditory discrimination, on occasion a child may need to be able to hear words as made up of initial, middle, and final sounds—to discriminate syllables and word parts. Visual graphs of frequencies that make up vowel sounds suggest that a child needs fine discriminations to separate sounds that distinguish one word from another. In order for children to generalize the relationship of facial sensations with particular sound patterns, including the slight differences between similar ones, they need practice over a long period of time with a rich store of sensations. Lacking in this distinguishing experience, children are likely to have trouble learning to read.

Ideally auditory discrimination is sharp enough in the school-age child that he can distinguish all vowel and consonant sounds in contrasting pairs, when he needs to do this. But most of the time a reader has so much meaning context and grammatical content helping him that he is relatively independent of letter-sound information. However, some leaders in the field of reading such as Chall, Durrell, and Durkin present evidence that suggests that ability to discriminate sounds or parts of words is perhaps even more associated with first-grade reading success than are IQ scores. Research (reviewed by Robeck & Wilson; Russell & Fea) appears to imply a positive relationship between auditory discrimination of patterns and early reading achievement. Older children with severe reading disabilities usually lack the skill to discriminate some of the patterns of phonemes (Robeck & Wilson, forthcoming).

Children with experience in hearing many voices and speech variations, including distinct pronunciation and articulation, have an advantage, however, in the recoding-decoding process of reading. These children with "educated ears" may have a better idea of where words begin and end in oral discourse.

But even a child from an "over-educated" environment may have trouble in hearing the separation of words. For example, when saying his usual prayers at night such a child might finally ask, "What does 'fieshudie, mean?" (Translation: "If I should die . . ." [. . . before I wake, I pray . . . etc.]). However, wide experience including exposure to different and varied dialects, overtones, and voice levels may give tolerance for a subtle range of similar sound patterns to which the child should attach the same meaning. Even secondary students may have trouble applying a foreign language studied when they hear only the model of their teacher's voice. As early as 1891 Wertheimer described the way people recognize one tune as being the same even though played on different instruments in different keys: the listener responded to the relationship between the notes rather than to the particular notes. An analogy may be drawn to a child's perception of words and phrases, distorted for him somewhat by dialectal changes, as being (for all practical purposes) the same patterns as others at least as far as meaning is concerned. According to one source, the discriminating, synthesizing, and structuring of auditory stimuli into transferable auditory patterns is the beginning of generalization about the sound parts in words—a crucial component of reading readiness (Robeck & Wilson, forthcoming). In sum, development as an accurate listener and reproducer of language is closely linked with beginning success in reading. Expecting a child to attend to specific sounds of words and parts of words during reading without calling on his listening background can be ineffective. Variations in background with sounds that children have are largely responsible for the differences in readiness for reading instruction.

Russell and Fea (1963) characterize the role of auditory perception in reading this way:

(1) Learner hears sounds made by others.
(2) Learner hears sound made by himself.
(3) Learner hears blends of sounds made by himself.
(4) Reader vocalizes in order to use visual and auditory cues.
(5) Reader subvocalizes– (reduction of auditory cue).

Research is needed to support or reject this rank order.

Finally, sounds heard are not the significant part of language, but meanings are. The same generalization applies to reading.

Mechanics of word recognition and pronunciation are not the significant part of reading, but getting meaning is. Simply to "bark" at graphic signs with certain sounds is not reading nor speaking; it may represent recoding but not decoding or comprehension. If a child "barks" out the sounds: "If . . . you . . . look . . . under . . . this . . . sign . . . you will . . . find . . . a . . . $5 bill which . . . you . . . can . . . keep," and then, uninformed, wanders away none the wiser or richer, he has probably not read—according to this definition.

To summarize the relationships between listening and reading: both listening and reading development call for the teacher to give attention to readiness which may include experience with English language, speaking and listening vocabulary enrichment sufficient to the task, interest in language activity, and ability to follow and remember a short sequence of sounds and ideas. Some children come to school with listening abilities well developed; some are more "ready" for listening instruction than for reading; many need practice in simple listening situations, such as whether the sound is the same or different, near or far, high or low, loud or soft, fast or slow. (See Russell and Russell for activities.)

Both listening and reading flourish in a relaxed social situation where the ideas and language in the material are at least partly familiar to the children.

For both listening and reading the sound or even the word is not the unit of comprehension, but sounds and words do affect comprehension of the phrase, the sentence, the paragraph, and larger units of discourse. (Example of word affecting meaning: "I can't take my *eyes* off of you;" versus, "I can't take my *spies* off of you.") The unit of comprehension, however, is likely to be the phrase, the sentence, the paragraph, and the whole unit of discourse in context and in varied relationships. (See McCullough, 1968.) (Example of need for larger context: "You are in support of striking Afghan hemp workers." Meaning *hitting them*? or meaning *Afghans who refuse to work*?)

Both listening and reading use signals such as pauses and intonation in oral language and their (sometimes not too adequately) corresponding punctuation marks. (Old example: "What's that in the road [,] a͡head?")

Both listening and reading may take place in either individual or in social situations. However, research historically as

early as Carver's (1935) showed that the analytical and critical thinking part of the process may flourish better in the individual situation, e.g., reading in a quiet room. (Also see De Lisle in Duker, 1968.) Appreciative, emotional, and creative reactions may flourish under the stimulus of the group situation, e.g., enjoyment and interpretation of a choral reading in an enthusiastic group.

Summary

This section presented what listening is currently considered to be like in comparison to reading, speaking, and writing. There was: a diagram to highlight the comparisons stressing the primary position of listening, and an extended discussion of reading, the other receptive mode of language processing. The section stressed the meaning dimension in listening as well as in reading which is a popular area for argumentation. (See Goodman, 1970.) The generalizations made in this section are not intended to include either all persons or all languages. The comparative ideas presented here are in need of further research, study and application. (See also Duker, 1971, Chapter II, "Relationships: Listening and Reading.")

The second method of definition, by attributes, which follows immediately, adds a few more dimensions to the comparative technique in the section just concluded.

2. Definition by Attributes—or, What Goes Along with Listening?

Another way to define listening would be to list attributes (ostensive definition). Figure 2 presents a partial list for listening and for reading in order to serve comparison further.

Listening represents the interacting of all of the attributes in the middle column and more. The next definitional task is to apply a classificational definition to listening.

3. Definition by Classification and Categorization—or, Where Does It Fit?

Classificational definition describes the classifying scheme as well as assigning position in that scheme. What is a system appropriate to listening and what is the place of listening in it? Probably the first section on comparison and the second on attributes covered most of the work on this definitional approach. In the first section listening was used as a term in a class called

Figure 2

Classification	*Listening*	*Reading*
Language		
Minimum features	phonemes	letters
Symbol context	pause	period, semicolon, dash, comma
	stress	italics
	intonation	capitalization
	pitch	paragraphing
	pronunciation	spelling
	timbre	handwriting
	amplitude	type size
Time pressure	strong, sequential, holding impermanent or requiring equipment for recorded speech	weak, reader can review, see several elements at once; holding limited to the permanence of material used
Human being		
Person context	simple to complex	usually absent
Muscular act	none necessary	eye-movement chiefly
Malfunction	deafness	blindness
Causes of fatigue	e.g., masking	e.g., illegibility
Feedback	immediate in conversation, review rare	remote, rereading and review possible, usually no immediate opportunity to question author
Emotion	sometimes strong, in interaction with other people	usually weak, individual reacts to himself most frequently
Physical science		
Maximum capacity	8000 bits of information per second	43×10^6 bits of information per second (Field or Jackson, in Duker, 1968)
Vibrations	of air	of light
Field of variation	time	space
Spectrum effects	pitch, timbre	color
Amplitude	loud–soft	bright–dim
Measurement units	decibels	lumens
Science	acoustics	optics

"language arts learning and processing." Listening was found operating as a receptive pair with reading and in constant interaction with speaking and writing as well as with reading. Speaking and writing were called the expressive, sending, or encoding pair.

The location of listening in the scheme of language learning and in education seems to put it chronologically or temporally first. Furthermore according to information from the field of aphasia, listening may be placed physiologically first (Brown, 1954). An inference to draw from these "firsts" is that listening is the opening key to the educational box. In summary, this definitional approach simply highlights further the relationship of listening to other subclasses of communication. The next definitional task is to apply a structural definition to listening.

4. Structural Definition—or, What Parts Does It Have?

Structural definition asks the question, "What are the parts of listening?" These parts come to mind: (1) previous knowledge (antecedent conditions), (2) material to be listened to (stimulus), (3) physiological activity of the listener, (4) attention or concentration, (5) highly conscious intellectual activity at the time of listening and beyond listening.

A part that poses many questions is the hidden and even the observable responses of the individual after listening has taken place. This section elaborates each of the five parts as currently seen. Frequently illustrations relevant to the classroom are given in order to strengthen the intended meaning of these concepts and to show their relation to educational practice.

Previous Knowledge

One part of the listening act includes the facts, ideas, rules, principles, attitudes, sets, values, and beliefs that a listener brings to the consultation, the dialogue, the encounter, and the confrontation. If a listener has no background specific to the message, he can accomplish intake physiologically but he cannot listen. For example, if a teacher does not have the background to know that "unzip the pinetop" means "making the teacher back down," he may hear the message, but not have the previous knowledge needed to comprehend these verbal symbols—to listen. It does not mean that he is stupid, that he cannot

think logically, that he does not have other language meanings of more value than these.

These preceding derogatory inferences are frequently applied misguidedly to children who are linguistically different and who have been labeled *disadvantaged.* But these children may have quick, agile minds which handle well the logic of survival in the ghetto. Their language may have meanings of intricate, subtle complexity. For example, the linguistic ability shown in the colorful, private speech of the ghetto child is represented in these phrases: broken homes are "trees without roots"; outsiders coming in looking for thrills are "tops on a fairy lake"; being in trouble is expressed as "flying backward" (Brewer, 1966). However, such children may indeed fail to appreciate the "funny, funny" subtitle of a picture of a cat who has just spilled the milk, when this child projects that this would be the only milk that he would see again in a long time. Of course, without appropriate background for the message, listening as meaningful communication does not get very far.

Listening and reading vocabulary. Previous knowledge of vocabulary and vocabulary acquisition may have some different elements with respect to listening and to reading. For listening as meaningful communication does not get very far. or used as aural counterparts of words read. For reading, words may be learned as visual counterparts of words listened to, or words may be encountered only in print. A child may meet the phrase "If I were" or "I presume" in "book language" only. Chances are that he will translate these phrases when he reads them, or find such unfamiliar language a peculiar, meaningless stumbling block. In other words, a child needs to get language "in the ear" first. The size of an auditory vocabulary may provide evidence of potential reading improvement while the size of visual vocabulary may represent a certain measure of reading achievement. In summary, background knowledge plays an important part in the listening act. The next part presented as necessary to the listening act is the material.

Material

If all spoken messages were eliminated, there would be no listening. (*Auding* is a more accurate term here.)

There are variations in messages ranging from a single aural symbol to many symbols with complex, multiple meanings, e.g.,

from a simple "Hi," to an "I know you believe you understood what you think I said, but I am not sure you realize that what you heard is not what I meant."

Materials may have linguistic structure: letter-sound (grapho-phonological) structure, sentence (syntactic) structure, meaning (semantic) structure.

Take this nonsense example for illustration: *Neglands stregorize frozily.* Although specifics of this sentence do not give any meaning structure, the listener can probably accept the letter-sound structure if he were to hear it and repeat it aloud. He can probably get some sentence sense because the first word bears noun characteristics attendant upon its position in the sentence. Also the *s* on the end of *neglands* suggests that the word refers to more than one in a class. The next word ending in *-ize* suggests verb form; the last word with *-ily* hints of quality because of the ending and its position in the sentence. The structure is something similar to *Students exercise energetically.* This example demonstrates syntactic structure.

Types of discourse further distinguish the material to which a listener is subjected. They make a difference in defining and working with listening. The message may be classified as: *expository* (reference oriented or informative, including exploratory and scientific), *personal* (self-expressive, emotive), *persuasive* (incitive), *literary* (e.g., poetic).

Material may be varied in other ways. For example, messages may have the speaker or transmitter present or not present but made available by some kind of machinery. The message may be speeded up or slowed down. (See reviews and research by Sticht, 1969, 1970, 1971; Duker, 1968, 1969.) The message may be masked with noises or competing messages. (See Broadbent's studies in Duker, 1968.)

The message may be monotonous or contain much variation in tone, pitch, and quality; it may have clear signals of pauses and intonation similar to punctuation in writing, or these signals may be unclear. One study of fourth grade, upper-middle-class children suggested an interaction. Intonation as if reading a list hindered the comprehension of easy passages and helped the comprehension of difficult ones, a contradiction of previous predictions (Rozan, 1968). Repetitions of this study will need to control for speed of presentation and examine the cases of children whose home language has little variation in intonation or

differs from standard intonation, as in the case of the Mexican-American.

More variations: the message may have tight logical organization or disorganization. It may have the property of immediate feedback as in a conversation with the chance to ask questions, or there may be no opportunity for review. The message may elicit strong, emotional reaction, be interactive with other humans; or the reaction may be even weaker than in reading.

The person context of the material may have an effect on the listening act. Person context might include: the level of authority of the speaker, his personal intrusions, his tone, style, manner, mood, and nonverbal communications including gestures. Person variables in the message might include self-reference in order to increase credibility and prestige reference designed to increase trustworthiness (Ostermeier, 1967).

Generally, in reviews of information as a construct over the past twenty years there are several key ideas. For Claude E. Shannon, information is a function of (1) the number of alternatives and (2) the probability of occurrence of them. Warren Weaver added the technical problem, the meaning or semantic problem and the effectiveness problem. W. R. Miller distinguished between "information 1" (external stimuli) and "information 2" (internal storehouse of knowledge and prior learning). Research is needed on determining the available fund of "information 2" for given individuals, possibly through projective techniques.

There is a growing body of research on various orienting directions, e.g., use of questions before and after materials which get the individual to respond to certain aspects of a text (mathemagenic behaviors) (Anderson, 1970; Frase, 1970). One study found that use of questions in spoken material increased retention but did not affect attitude change (Petelle and Thurber, 1968). Here is an area of needed study relevant to spoken materials, important to classroom instruction.

Listenability. Although efforts have been made since the 1920's to measure "readability" of materials, little has been done to measure "listenability" of material. By "listenability" is meant the inherent difficulty of spoken material (e.g., public speeches, radio broadcasts, lectures) because of such factors as vocabulary load, lexical complexity, grammatical complexity,

and treatment of subject matter. Variables would have to be controlled in these studies, such as: rate of speech, clarity of pronunciation, skillful use of intonation, stress, pauses, and ideological complexity. Variables in ideological complexity might include ideas, signals, and total cognitive units (Horowitz, 1968).

In the classic, pioneer study, Goldstein (1940) cautioned that test passages which are equivalent for reading may not be equivalent for listening. At lower grade levels readability measures applied to material presented orally underrate the child's ability to listen; from approximately seventh grade on, they overestimate the child's ability to understand speech (Brown, 1949). For example, material that measures tenth grade in readability is about twelfth grade in listenability (or audability). Because of difficulties in word recognition at low grade levels, reading material may be at about two grade levels below listening levels.

Actually little is known about how changes in the message influence the listener in the classroom. Additional research is needed. Little is known in a controlled way about the crucial factors of vivid interest in gripping material and attendant behavior when the child is highly motivated by fascinating discourse. Unfortunately these variables operate too rarely in testing and in classroom situations.

The next section deals with the part of the listening act concerning physiological activity and reception of the material.

Physiological Activity

Physiological activity including hearing is also a part of the listening act. Sound waves are received by the ear in what may be raw, undifferentiated sensory experience (e.g., NEEAARR-ROOO–SWASHSH!!!).

Hearing might be compared to the seeing or reception of vibration of light in reading. Hearing refers to the conversion of pressure waves into neural impulses moving to the brain area where the listening process of interpretation begins. To draw again a parallel to reading, neither "hearing" nor "seeing" implies concept formation. But hearing without distortions is a basic part, a prerequisite to listening. Listening includes more conscious activity of the mind. If the listener simply cannot hear, he has no hope of getting meaning from the message.

Under physiological activity might be included parts called: (1) auditory acuity including binaural hearing; (2) auditory perception, discrimination, and analysis; (3) auditory memory; and (4) auditory sequencing. If a child is deficient in one of these aspects, his ability to listen suffers.

Auditory acuity refers to reception of sound waves of various tones at various levels of loudness amplitude and defines the functional efficiency of the hearing apparatus. (There is a parallel to reading with reference to brightness or dimness.) Human range of conscious reception is at about 15,000 to 20,000 vibrations or cycles per second.

Probably five to ten percent of children are handicapped in auditory acuity. It is suggested that the teacher watch for the child who cups his ear and leans forward to hear, or who speaks too loudly or too softly, or who has trouble pronouncing words (i.e., slightly inarticulate speech), rhyming words, or discriminating similar sounds. Another look at the school audiometer test (hopefully given early by competent personnel) may be in order. Auditory acuity may set the limits within which auditory discrimination operates, but there is no evidence that presence of acuity guarantees discrimination (Harris, 1969). Young children may have temporary hearing loss caused frequently by infection of tonsils or adenoids. Effects may change amount of sound picked up and the shape of resonance chambers, causing the child confusion. Children housed improperly and prone to respiratory ailments affecting the ears may lose valuable opportunities for learning auditory discriminations useful in reading.

With binaural hearing problems, where there is lack of coordinated functioning of both ears, there is a parallel to disability in depth perception in seeing. To be able to identify a speaker in the presence of several speakers indicates properly functioning binaural hearing. Again, basic difficulty makes for poor listeners. (For a detailed description of the physiology of auditory perception see Robeck & Wilson.)

Auditory discrimination and analysis refers to distinction of sounds. Some children have no discernable physical difficulty in hearing but have trouble distinguishing between an invitation to point to the *pin* or to the *bin*, to the *hot roll* or to the *hard roll;* such children may confuse *seeing* and *ceiling*. Discrimination problems may come from: (1) points of articula-

tion, (2) degree of nasality, (3) amount of lip closure, (4) voicing and unvoicing (e.g., *-s* representing a whispered or voiceless sound and *-z* representing a voiced sound with vibrations of the vocal chords).

Auditory discrimination or ability to distinguish between phonemes (sounds), is a dimension on which children differ widely, indicating need for differing instruction. Miss X's class where *all* children are chanting together words that begin with the same sound as *monkey—mouse, moon, money, mother*—is probably not a place where individual needs are being met. The speech therapist may use a phonemic inventory as a diagnostic tool. The ability to discriminate, essentially an acquired skill in recognizing the sound structure of the native language, frequently matures as late as the end of age eight. Some children never develop much skill in auditory discrimination. Poor discrimination, poor pronunciation, and poor reading tend to go together. There appears to be little relationship, however, between auditory discrimination and scores on most intelligence tests.

Especially teachers of pupils who are linguistically different need to know about each child's auditory discrimination. Confusingly for the teacher, omissions, additions, distortions, and substitutions in the sounds of what we call standard English may be associated with difficulties in auditory discrimination or with the sounds of the child's own dialect and nonstandard usage (or with both). For example, when Louisa says *'E 'it me,* for *He hit me,* is it dialect or auditory discrimination or hearing that prompts the omissions?

This example calls to mind another factor, *auditory resistance* (French, 1951), which has to do with ability to perceive speech despite distortion. For example, the teacher understands what Louisa says in spite of her dialect, sobs, and breaks because of the teacher's skill in auditory resistance to these distortions. A name given to this factor by Guilford (1967) is "cognition of symbolic units (auditory)." The tests for this factor require recognition of words presented with some type of auditory distortion.

Auditory analysis refers to the responses children may make to changes in pitch or tone (frequency), volume (intensity), rhythm (periodicity), without being aware that they are doing this. The listener is likely to be conscious of using auditory

analysis when he is listening to the sound sequences of an unfamiliar foreign language or dialect (e.g., while hearing *Det var en Lørdag aften,* unless he knows the Danish language well). Children use auditory analysis (including auditory discrimination) when they work with phonics in reading instruction, when they listen to a difficult word that they want to spell, or when they try to imitate the voice of someone else. In fact a game of "make-your-voice-sound-like-this-one" can assist development of auditory analysis and discrimination and possibly even develop more pleasant voice qualities.

Physiological activity might also include low-level mental processing such as auditory memory and auditory sequencing. Thus follows a fourth aspect, attention and concentration, which plays a part in discrimination, analysis, memory and sequencing.

Auditory memory refers to that part of the act that helps hold the sounds in store during accumulation. In order for the listener to judge whether or not two or more speech sounds are alike he needs to keep the sounds in memory so that he can retrieve them for comparison. He cannot make simultaneous comparisons in listening as he can in visual discrimination in reading. He has to depend upon his auditory memory span. People tend to convert even visual information to a memory that is structured for sound by saying things to themselves. Thus memory may be laid out according to acoustic qualities (Broadbent, 1966). The nervous system may actually select certain types of material during presentation rather than during recall. The grouping of items may be produced to some extent during presentation rather than during retrieval (Broadbent, 1966).

It appears that even after a brief delay, the listener must reconstruct the exact wording of a sentence from a deeper interpretation. Some parts of a sentence appear to be more difficult to reconstruct from memory than others. After the listener generates hypotheses about the underlying meaning of a sentence based on preliminary analysis and expectations, the hypotheses are tested against information such as syntactic cues in the sentence. All of this information is probably not remembered very long after the initial hearing. Consequently the listener may be slow to reject a wrong hypothesis and may miscomprehend a quite plausible message (Ammon, 1969).

Optimal use of memory is a crucial step and an important area for further research along the lines of work conducted by Ammon.

Using batteries of foreign language aptitude tests Carroll (1958) has identified a relevant factor which he calls "phonetic coding ability," the ability to store in memory, presumably by some sort of coding process, any kind of auditory phonetic material. He speculates that skill in this kind of memory which helps in learning foreign languages may reflect the "phonic" instruction the individual received while learning to read his own language. Effective auditory function probably rests on an adequate auditory memory span. An inadequate one has been identified as a possible cause of reading difficulty (Harris, 1969).

Long-term memory is especially important when dealing with meaning, e.g., recalling the attributes of a concept heard and learned years ago. When working with children, the teacher may question, "Has the material disappeared or become too buried in this child's storage files (long-term memory), or did it never get stored in the first place (short-term memory)?"

A simple test of auditory memory is to tap a rhythm with a pencil and have a child repeat it. A more complex test example might be remembering the number of syllables actually uttered as signified by breaks in the oral language string, without regard for what would appear in written text. For those knowledgeable of written language, the task becomes more difficult when the oral language is slurred and run together, as in the example *dijet*? for *Did you eat*?

Compared with work on memory of numbers or digits there has been little work on memory of speech sounds. Here is another area where research is still needed.

Auditory sequencing, closely related to auditory memory, refers to the recall of sounds in proper time sequence. The sequence into which words fall may determine the meaning of a sentence. For example, *He went to bed and had three martinis,* does not carry the same meaning as, *He had three martinis and went to bed.*

A child who has difficulty in sequencing may carry out only the last of several instructions, or consistently garble the pronunciation of strange, new words. A child may have trouble in discriminating the sequence of auditory symbols in the direc-

tions, *Melt butter in a pot; brown a large onion; and add flour and curry.* That is, he may have trouble in recalling sounds in proper time sequence—a major dimension of language. For example, for the word *totempole* he may be saying *temtopole* or *poletemto.* Unscrambling random order sentences would be a test possibility. For example: *Sky across the like marched clouds the giants,* unscrambled could be, *The clouds marched like giants across the sky.*

Attention and Concentration

Another part in the listening act is attending and concentrating ("tuning in"). Sometimes these terms are confused as synonyms for listening. According to some ear specialists it may be that more than half of proclaimed deafness is nothing more than inattention. Yet a child can give his most earnest attention to a strange foreign language and still not comprehend—listen. Listening is more than attention and it is more than hearing. Attention or noticing is a necessary but not a sufficient condition for learning from verbal materials.

Some businessmen have learned their lesson well: to keep presentations designed to influence others to not more than twenty minutes in length; to go to great pains to minimize distraction, monotony, irritating gestures or facial expressions, poor acoustical conditions, unpleasant temperature; and to use appropriate tone, manner, and organization. But it is not uncommon for children to be expected to listen far beyond the time of their likely attention span with lawn mowers going or children playing outside the window, with noise-amplifying flooring, sweltering weather (unairconditioned), or over-heating—every imaginable kind of inhibition to attention.

Two competing messages present at the same time do not appear to be comprehensible simultaneously (Broadbent, 1966). Humans can focus more on one of two competing messages than on the other but not equally upon both. One message filters through.

A child with difficulty in the area of attention and concentration may not hear the bell ring if the playground or classroom is especially noisy. Or he may not be able to follow the teacher's instructions if there is a little class commotion or if there are distracting noises outside. Binaural problems may be one source of difficulty. A teacher can screen for this problem

by asking all children to close their eyes and then point to the teacher as she makes noises from various positions in the room. A teacher might test attention, awareness and concentration by saying to a pupil, "Raise your hand when you hear an animal sound."

Hard of hearing children have trouble not only with the softness of sound but also with any distracting noise or competing messages (either speech or nonspeech) present at the same time. Minimally brain damaged children will also have this problem intensified.

There are possibilities for training, however. Highly motivated students may be getting training in "vigilant behavior"—that is, responding only to specific recurring sounds happening over a period of time in the presence of a continuous and provocative spoken message. Use of competing messages for training to improve attention is new, having been tried only minimally. Moreover, the question of transfer to improved listening comprehension is as yet unanswered at the time of this writing. (See references by Witkin, 1969.) Children who are easily distracted because of organic integration difficulties may need training designed to extend gradually the time they can attend to messages. They may profit from using context clues to fill in parts missed. These possibilities are on the horizon and need investigation.

There are other detriments to auditory attention. One of the biggest masks is the personal noise or irritating thoughts and problems inside of the individual. The time lag in the speed of speech and in the speed of listening and thinking (with thought being possibly ten times faster than speech on occasion) creates a detriment to attention. All of that leftover thinking space while waiting for the next words of the speaker can get the unskilled listener into "mischief."

Compressed speech may be the answer in some situations. Normal speech may progress at the rate of 125 to 175 words per minute. Depending upon the material, speeded speech up to 350 words per minute shows negligible comprehension loss. In fact blind people who use records and have acquired some skill, prefer more speed in presentation than normal people. (See studies in Duker, 1968; Sticht, 1969, 1970.)

Space does not permit a detailing of the research on compressed speech in this monograph. But for education of the

future, the idea is intriguing that spoken discourse might be accelerated such that not only is comprehension increased but also the rate of transmitting information and of its assimilation approaches typical reading rates. As examples of investigators, Emerson Foulke of the University of Louisville and Herbert Friedman and David Orr of the American Institute for Research in Behavioral Sciences, Silver Springs, Maryland, have been productive contributors to this field. Their work and that of others is included in a special issue of the *Journal of Communication* (September 1968). Duker has a book of readings on this topic forthcoming (Scarecrow Press, Metuchen, N. J.).

Auditory Comprehension and Other Highly Conscious Intellectual Activities

Thus far structural definition implies that listening is the sum and the interaction of many parts: (1) previous knowledge; (2) material; (3) physiological activity including hearing, auditory discrimination and analysis, memory and sequencing; and (4) attention. Next is a highly conscious seeking of meaning, auditory comprehension—the ability to understand and remember the meanings back of the word signals.

It is at this point some investigators feel that definitions run into the greatest difficulty because of lack of adequate terminology. If educators are to call themselves a profession, they need accurate, discriminating terms to clarify their ideas. The next part continues to chisel away at the term "listening," specifically its aspects of comprehension.

The listener can comprehend the purpose of objects he has seen physically when he looks at them using his mind. For example, he can comprehend the purpose of revolvers, medicine droppers, syringes—and still not be able to read. "Looking comprehension" is not "reading comprehension." Similarly he can comprehend possible purposes of shooting, barking, or fog horns without attaching verbal or language symbols to the input. *Listening*, as a term, is not confined to language alone as *reading* most frequently is. Educators appeared to need a new word to mean the process of listening to recognize and interpret *spoken* symbols or linguistic materials.

Auding represents a term invented for that purpose. Don Brown with the help of his high school students invented this word which has appeared, for example, in the English and

English *Dictionary of Psychological and Psychoanalytical Terms*. But the term has not gained wide acceptance. Since the context of this monograph is language, it does not appear to be particularly vital to keep mentioning *listening* as referring to language symbols. From now on this meaning in language context is assumed. Again, earnest application (attention) to unfamiliar language, even a dialect, may not be enough to get understanding. The listener (or auder) must know the system of verbal signals used by the sender. The better he knows it, the better he receives the meaning.

The meaning that the listener decides upon may or may not be the same as the speaker's meaning. In fact with difference in background and at high levels of abstraction of ideas, it is unlikely that meaning will ever be identically the same for both parties attempting communication.

Meaning is not usually found in a single word or phrase but can be gotten from the broader relationship spectrum of "Who" says "What" to "Whom" under what circumstances. (Voice tone is also a clue to meaning as is the constituent grammatical structure.) There are children who can understand parts of sentences but who confuse relational concepts such as *in* and *on*, *above* and *below*.

Two writers shed light on comprehension: Piaget and Guilford. Piaget (1970) refers to the sensorimotor stage of development, ages birth through year one in which the child learns the meaning of motion, up-down, in-out, on-off, tactile differences (e.g., solid-liquid), and time-spacial relationships such as before-after, long-short. The language arts teacher cannot assume that this type of learning has taken place in all of her pupils, but needs to teach this language learning within the instruction in listening and reading.

Relevant to meaning, Piaget also refers to the simiotic stage (about years two to eight) in which the child practices association of meaning with words and symbols. A life-long process, difficult to master, it consists of evoking reality not present through symbols and signs—imagination and talk. One practical application here to teaching is the use of symbolic play and language in classroom creative dramatics, discussed in more detail in the fifth chapter on teaching strategies.

Again relevant to this part of the structural definition Piaget provides a third and fourth stage. Starting supposedly at about

age eight, stage three, much like stage two, includes comparison, linking, disassociation and classifying of more than two objects or concepts, synthesis and multifaceting of concepts, and handling bundles of attributes. Also relevant is the fourth and final stage of development in children's thinking, starting supposedly about age eleven, and including not only objects and events but also hypotheses and logical propositions, the stage of logical relations, involving *if . . . then, either . . . or* kinds of logic, i.e., highly abstract thought processes. Thus a child's growth in meanings proceeds through a succession of stages. In a way these stages of comprehension resemble the progress of scientific discipline in that the child (as does a science) acquires and tests increasingly better intellectual models or "theories" about the world as he grows. (See the next chapter for beginnings of a taxonomy of listening skills relevant to comprehension and meaning.)

Finally, "cognition" factors from Guilford (1967) represent another analysis which has much to do with the comprehension of language and may be useful. Comprehension might be examined from the standpoint of his three dimensions: (1) content (e.g., semantic); (2) operations (e.g., evaluation); and (3) product (e.g., implications).

In summary, the listener selects or samples in light of his background and predispositions from the sounds, sentence patterns, and larger organizational and relational structures and meanings that are in his repertory. By organizational structure McCullough (1968) refers, for example, to organization by (1) chronological time sequence ("It happened at 5:00 after work."); (2) cause and effect ("because it was rush hour."); (3) part to whole ("His was one car in a whole stream of traffic."); (4) similarity ("like a segment of a giant earth worm."); and (5) contrast ("Taking this route now was certainly different from the way it was ten years ago; why this freeway was a cow path!").

Purposes for listening, an aspect of intellectual activity related to comprehension, may be similar to those for reading. Intended objectives range from enjoyment of simple sounds to literal comprehension, interpretation, and emotional experience. For example, the purpose may be only *passive*. ("Hum-m-m, that man has a nice sounding voice.") Or the purpose may be to *associate* or classify. ("Hum-m, someone who used a

word such as that does not belong to my generation.")

Or the purpose may be to *organize* or synthesize. ("Hum-m, I think he is trying to define *peace*—it could be organized like a definition, with a little reworking.") Or to listen *critically,* according to some highly conscious standard in the mind. ("Hum-m-m, what does *he* know about peace? It doesn't seem to begin with him!") Or to listen with an *emotional, appreciative* purpose in mind. ("Ah-h-h, what a poetic choice of words; if only I could speak as well as he does.") Or to engage in *problem solving* while listening. ("That idea he just stated for research strategy could be used when we make the survey about the noise-pollution level.")

In summary, there appear to be levels of intellectual activity and levels of purposes while listening. These levels go beyond listening for simple sounds, syntax, and semantics of a phrase, sentence, or paragraph to complete units of discourse. Similarly, there is more to reading than just the sound and the word.

5. Operational Definition—or, How Does It Work?

The focus of an operational definition is "How does it work?" or "What does a listener do?" The listening process, typical of other complex human behavior, can be analyzed in a variety of ways. Most statements in this section can be held only tenuously; they are made for the sake of a definitional basis. The flowchart at the end of this section is by no means technically precise, nor are the operations entirely independent of one another. But the description of the flowchart operations may give a framework to serve as a springboard for research and development and to help keep points for instruction in mind.

Some of the operations in the listening act have been mentioned already, especially in the last definition using structure or parts. This section details more specifically how listening may work partly as sampling activity focused on hypothesis testing.

People normally *sample* when they listen. They can be counted on to engage in only the processing demanded by the task (Anderson, 1970). Few need the whole spoken word in order to make a correct identification. If a listener simply hears the sounds represented by *Now he lis . . .* , at this point he would probably guess correctly from the sample that

listens would be the complete word. He works with probabilities of his language. Children increase in their ability to judge from samples as they grow older. (Another implication for teaching?) Experienced listeners bother to process only fifty percent of sounds in the environment. They piece out from parts; they "tune-out" the rest.

Certainly there are individual differences in sampling skill. A person might be a good "word-by-word" listener and not so good at thoughtful analysis of extended discourse (Ammon, 1969). His sampling process may take in bite sizes that are too small. He may get lost in detail when he tries to use his listening to solve a complex problem for which a broad perspective is needed. Or as in the case of "holding the fifty-cent piece right up to his eyes," seeing nothing, he may be holding antagonizing words right up to his ears, hearing nothing or blocking the complete meaning.

This section is summarized with a tentative framework showing possible steps of proficient listeners as they move from verbal sound, to meaning, to intellectual activity leading hopefully and ultimately to creative problem solving. There are three main parts to the model: responding and organizing, getting meaning, and thinking beyond listening. The ten suggested steps are labeled: (1) hear, (2) hold in memory, (3) attend, (4) form images, (5) search store, (6) compare, (7) test cues, (8) recode, (9) get meaning, and (10) intellectualize. The parts and steps overlap in many cases.

For illustrative purposes, we take a living-room setting where there is a guest, an Italian whose English is not exactly standard in pronunciation. But the host is a fairly proficient listener. The illustrations continue to track the listener's operations as they relate to the particular step under discussion.

Hearing

The listener starts by hearing a speech sound or series of symbols which the speaker has uttered—at certain levels of loudness (volume), from a certain distance, at a certain speed, with a particular manner of enunciation, at a certain pitch (frequency), timbre (sound wave form), and in the peculiar combinations of these characteristics that influence intelligibility. The listener *accumulates* sound, receiving a word over a brief interval of time, collecting bit by bit. These auditory

bits must be summed up in order to decode a message. This step also includes auditory discrimination, sorting, and sequencing.

A child may have trouble *discriminating* sound. Perhaps he cannot hear the difference between the sounds that *p* and *f* have in words. (This part of the step has been described under the preceding structural definition.)

Sequencing, which may be a simple to complex operation, may also affect comprehension. The flow may be segmented here. (This aspect has also been described under the structural definition.)

During the accumulation portion of this step many influences may distort the message: (1) physical hearing ability (auditory acuity), (2) conflicting simultaneous messages and the individual's tolerance for this masking, (3) fatigue from monotony, (4) ability in extended concentration (which is assigned to step three), (5) related or unrelated associations which again may crop up in many of the steps, e.g., positive and negative associations, confusions with words that have a similar sound, highly personal meanings that trigger emotional reactions.

To illustrate this step, continue with the illustration of the living-room scene between the Italian visitor and his listening host. The Italian could appear to say politely, *Do I see a cot?* The listener encodes, images, discriminates, accumulates, sorts, and sequences this message. But he is still puzzled as there is apparently no *cot* in this living room. The listener may or may not realize that he is now calling upon also his ability to perceive speech despite distortion. Unconsciously, he has probably dissected out the words, the grammatical description of this sentence, as a question containing a subject, transitive verb, and object. Word order is no problem, intonation no problem. But in no shape, form, or substance is there a *cot* visible. This step as well as some of the others, includes basic linguistic competence of a fairly simple nature for a proficient listener.

Memory

The listener holds the accumulated sound in memory. Memory is probably involved in all operations presented in this model. (A great deal more was said about memory under the preceding structural definition.) The proficient listener, in the

continuing example, is using both kinds of memory, long term and short term, as he mulls over his guest's utterance, *Do I see a cot?*

Attention

The listener focuses and selects cues from the speech sounds ("tunes in"). His selection depends in many cases upon the repetitions or redundancies of conversation and nonverbal gestures of the speaker. He may need to track the sounds through time. (It may take one-third of a second to hear a syllable.) Awareness, closely related to attention, refers to a realization that a sound has started, stopped or changed. (Again the preceding definition elaborated this concept.)

Focus, included in this step, refers to the localization of a sound source in relation to the listener. A baby turns his head toward laughter that he cannot see. More advanced focusing is needed for a teacher to identify which child in a class of forty running on the playground used an "inappropriate" word.

Selection, a part of attention, is sometimes referred to as figure-ground distinction. (A related device is what is apparently at first glance a red vase on a background of blue that may, as the eye studies it, turn into two blue faces on a background of red.) Rarely do people deal with only one sound against a background of complete silence. When the proficient listener realized that his Italian guest was saying something to him, it may have been separated out against a general noise level background of sounds from stereo music, wind chimes tinkling on the balcony, a motorcycle in the parking lot below, the pump in the aquarium, the police helicopter and the crash of a big wave on the not-too-distant beach. Most of listening is done in a complex maze of auditory stimuli—a maze that is increasing in intensity and complexity at an alarming rate, as mentioned earlier under the impact of noise pollution.

The receptive language user has to select the most productive cues for hunches from all these surface structures in order to get to an underlying structure and to language meaning. But he does not have to use every feature and relationship of every sound. Similarly, a reader learns that not all of the letters in a word are equally important, e.g., the initial consonant usually carries much more information for active processing than do other cues. (See Samuels, 1969.) Selection may be

feature sensitive and context sensitive, i.e., many of the tentative identifications are made on the basis of what you would expect from context. And context, not trial and error, controls the order in which the listener tries to synthesize and reconstruct the message to match the actual one.

Formation of Images

The listener forms tentative, perceptual images from the auditory cues. He may translate the auditory image into internal speech. Next, the listener may give what is sometimes referred to as a "semantic encoding" to a word in a message (Anderson, 1970). At present it is not possible to be precise about what semantic encoding involves, but it probably includes an internal sensory representation, an "image" or internal picture of the thing or event named by the word. One reviewer speculated that the image-evoking value of words is the most important determiner of the learnability of these words, more important than meaningfulness, word count, frequency, or semantic differential ratings. At any rate there is evidence of two separate processes, "acoustical encoding" and "semantic encoding," because of research on memory. Most errors in short-term memory (a few seconds) arise from confusions between sounds even when materials are presented visually. But errors in short-term memory from confusion in meaning are relatively rare. Yet in long-term memory confusion in meaning causes more errors than confusion over sound (Anderson, 1970).

In the continuing example the proficient host-listener was forming mental images as he received his guest's ***Do I see a cot?*** message. Among these images was possibly seeing—looking with the eyes—and *cot*—perhaps tan-colored canvas with a wooden frame such as the listener might have had to sleep on as a child when visiting relatives. Perhaps he was even imaging such a cot sitting in the middle of his elegant living room—totally incogruous.

Search

The listener may have to search and sort through multiple possibilities and images held in long-term memory storage. He also anticipates from this store. He searches past experience: his linguistic competence in vocabulary, his language knowledge store of probabilities, standards or criteria he has formed,

ways of organizing, various purposes, and associations. He may need to compare the material with the context of what comes next, if nothing came before (prior context). There may be a hierarchy or cumulative progression of these cues that makes the task easier for the listener under certain conditions. During this step the listener is still using the time difference between the presentation by the speaker and his faster speed of thought.

The listener in the continuing example might be searching his associations and possibilities of meaning: "*Cot* . . . Could he be referring to *couch*? But of course there is a couch here. Why would he be asking if he saw one, especially when he is looking over in that dark corner?"

Comparison

The listener compares whatever cues he selected with his previous store of knowledge in order to form a tentative image so that he can predict meaning. The listening host may be making these comparisons to himself: "Well, he surely can't mean *cot*. Could he mean *coat*? But his coat was laid in the other room; why would he ask if he saw his coat? There is surely no coat over in that dark corner . . ." The sentence structure seems sufficiently complete but the listener suspects that the articulation is atypical. He is still searching for and comparing information.

In order to compare, listeners may have occasion to use *indexing* and *scanning*. When asked, for instance, to name words to rhyme with *bat* for the class Halloween poem, a child lacking in indexing and scanning does not seem to flip quickly to the mental auditory file containing *-at* clusters. For another example, when a writer searches for the best word, he may scan several groups of synonyms to find the "right" one. Scanning includes partial listening when interest is just in portions of discourse.

A child with a problem in scanning may not be able to get the general impression of what he hears, or be able to pick out details. When this child dials the phone for the time of day, he may get inundated by the advertising message, miss the time and have to call again. Probably he could not tell the main idea of the advertising message either.

Another example of scanning is the use of rhetorical cues, e.g., a listener spots cues as to the introduction when he spots the

word *first*, as to the transition when he spots the words *the next point*, and as to the conclusion when he spots the words *in summary*. Herbert Spencer once said that when a man's knowledge is not in order, the more of it he has the greater will be his confusion. Indexing and scanning skills help.

Testing the Cues

If the listener cannot make a choice, he may get the speaker to help him test his cues or his selection of them by asking a question or by attempting a summary of what he thinks the speaker said. He may need to compare with a larger context of sound sequences as well as his internal store. When the listener tests his cues, if he gets a match, then he can get on with the recoding and the getting of meaning. If he does not get a match, back he goes to his store of past experiences for further search and the next most likely synthesis—unless he gives up. Thus "testing the cues" includes a "goodness of fit" test comparing the features of the actual speech input with the characteristics of the tentative and most likely identification. This evaluative "testing-the-cues" operation appears to be similar to Bruner's (1951) "hypothesis testing," Solley and Murphy's (1960) "trial and check" behavior, and Guilford's (1967) operation labeled "evaluation of semantic relations." Friedman and Johnson speculate from their data that it is a high degree of skill in this activity that makes the difference in comprehension at high rates of speech compression, up to 450 words per minute (1968).

One aspect of testing cues is monitoring; the listener checks to see if he heard what he thought he heard. During monitoring he may catch mistakes in his own speech when the sounds he just made are processed. For example, in a conversation he might say: *He don't know—er—he doesn't know.* In the continuing example, our host-listener might test the cues by questioning aloud: "What did you say, a *cot*?"

A great deal of learning from listening takes place by going back for testing and correction. (The same is true in regression in reading.) But proficient listeners do try to select the fewest possible cues to make the best possible choice (Ammon, 1969). They sample.

Recoding

The listener recodes (or encodes) spoken symbols by using

auditory analysis, association, discrimination, identification, recognition and reorganization of a language unit. Probably one of the first things a person does with a word he notices in a message is to say it to himself, sometimes referred to as acoustical encoding (Anderson, 1970). The listener goes from code to code; he goes from the raw sound sequences (unconsciously usually) to the language code he knows which includes rules, strategies and reorganizations. For example, a listener may find it necessary to recode in his mind translating Swedish into Danish which he knows better than Swedish and then into English. Dialects may be recoded into other dialects and pronunciations. All of this reorganization during listening does not necessarily lead to comprehension of meaning, just as in reading it is possible to recode from letter to sound and not have any grasp of what the message is all about.

With respect to reorganization, when people have a chance to play back a taped sample of their informal conversation, or to read a "nothing-left-out" transcript, they may be surprised (appalled?) at their language patterns and mazes. There will usually be clutter, redundancy or repetition, unfinished ideas, unintentional sound substitutions, even apparent slips of grammar from whatever the native dialect might be as they change their minds in midstream—i.e., some general incoherence. Examples are noticeable even on TV talk shows, interviews, and political speeches. Aided by redundancies, listeners must do a lot of recoding and processing while pursuing meaning.

Back to the continuing example: Suppose the Italian helps the listener with a bit of pantomime. The listener uses these gesture cues and recodes. "Oh, oh, *cat* is what you said, not *cot*. Why yes, I didn't know that she was in here. Yes; it's a Siamese."

The listener in this recoding step may be conscious of using auditory analysis when material lacks meaning, as in the case of listening to foreign dialects or to foreign language for the first time, or to a series of numbers or letters. The listener notes differences: changes in sound, changes possibly in the order in which the sounds occur. He may attempt to regroup the sounds, then to translate into images as he rehearses the sounds to himself. Or the listener may be able to go very rapidly and directly to the meaning symbolized by the sounds. In the present continuing example, the listener was relying heavily upon nonverbal cues to recode and decode *cat* as op-

posed to *cot,* since he had no past context of words leading up to this message.

Literal Comprehension

After noticing sound, translating it into internal speech, and evoking images for the things and events named, the next step probably includes thinking of relationships. The listener forms linkages or interactions among imagined things or events (Anderson, 1970). For example, sounds heard may be linked with verbs (*the student tossed the grenade*) or prepositions (*beyond the crowd*) as an aid to retention, comprehension, and association.

Then the listener gets meaning; he decides what the language unit in the continuous discourse means to him—literal comprehension. (*Decode* is probably a synonym for what is meant here.) He may also test his cues not only for internal logic but against the actual message and find that he has made a suitably accurate match. Take the continuing example. The listener may be saying something such as this to himself indicating that he has achieved meaning: "At last I figured that one out. He asked if he saw my *cat*—these foreign accents!" The term *listening* is appropriate when the person reaches the part in the series of steps where his experience brings meaning to the verbal symbols.

Thinking beyond Listening

Next, the listener may engage the meaning he gets in further intellectual activity such as classifying according to time, space, position, degree, etc.; categorizing; indexing by ranking information according to its importance and relevance; making comparisons; defining; assigning sequence; predicting; applying; seeing cause-effect relationships; proceduralizing; evaluating critically; appreciating the drama, tone, rhythm, lyric quality ("turning on"); or possibly unifying and interrelating meaningfully all of this intellectual activity and reasoning ability through creative problem solving. In this step the listener thinks beyond listening. The listener-host in the continuing example might think beyond listening based on even that small slice of discourse. His thoughts might run in this fashion:

"Oh, okay. An Italian pronounces *cat* like *cot.* I wonder what other accents would make it sound like *cot.* It is a bit dark

in here. Maybe I should turn up the lights so that he can see better. *Cot, cot,* I like that accent. Maybe I should offer to help this guy speak better English and he could help me learn Italian." (Creative problem solving emerging?)

The model which follows (Figure 3) summarizes these ten steps. Linear arrangement is purely speculative, may frequently be circular, almost all at once, or proceed in a hop, skip and jump fashion.

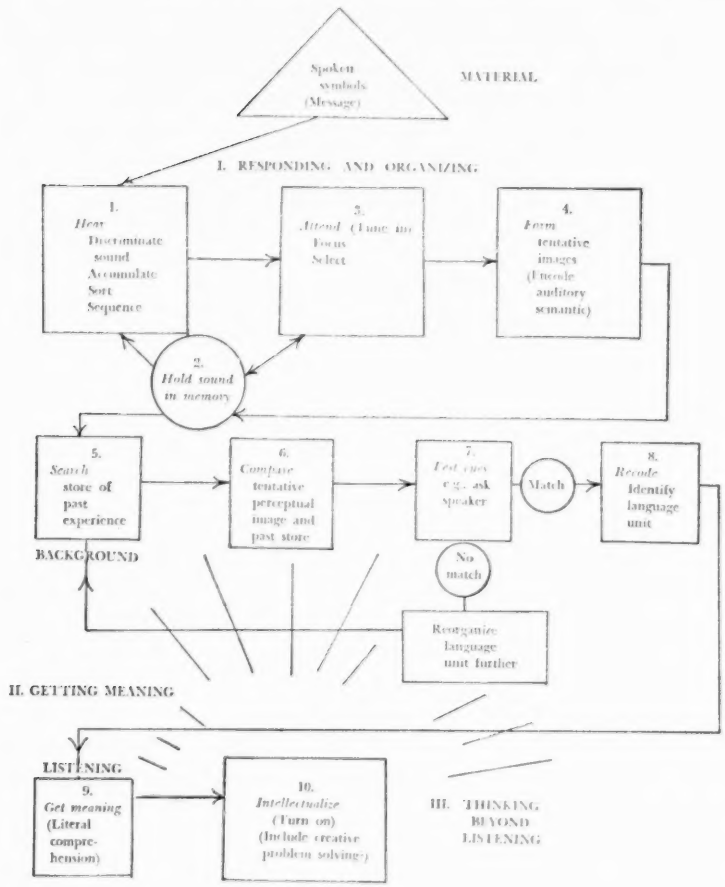
In summary, these are possible steps in proficient-listener behavior. For all practical purposes much of what occurs may take place so close in time as to appear almost simultaneous and not necessarily in the order presented. There is a high correlation between scores on measures of auditory perceptual tasks of attention, focusing, tracking, discrimination, sorting, scanning, and sequencing—probably because of this almost simultaneous occurrence (Witkin, 1969). Attempts to isolate one of these aspects in auditory perception may not be practical.

Of what use is this model, then? It may bring to higher consciousness the listening process, may help to define a confused construct. It may act to encourage further refinement of definition so that many instructional approaches can grow out of it and find their way into a teacher's broadening repertory. An optimal curriculum probably takes all of these events into account. Full, deep, meaningful processing from the listener facilitates learning (Anderson, 1970). Knowledge of the listening process, listening characteristics of children, teaching characteristics and their effects on each other is still so primitive that researchers not only lack the knowledge at present to match methods of teaching listening with teachers and with pupils, but also they have barely identified one method let alone several effective techniques. Some new materials and programs, however, are described in chapter five.

There appear to be three major parts to this operational definition. The listener usually (1) responds to and organizes a spoken message calling on his background knowledge; (2) gets meaning by using his skills of auditory perception and comprehension; (3) and thinks beyond listening by intellectualizing or reacting on complex thinking levels to the spoken symbols.

Figure 3

Flowchart of Listening
Steps a Proficient Listener May Take


Spoken symbols (Message)
MATERIAL
I. RESPONDING AND ORGANIZING
1. Hear Discriminate sound Accumulate Sort Sequence
3. Attend (Tune in) Focus Select
4. Form tentative images (Encode auditory semantic)
2. Hold sound in memory
5. Search store of past experience
6. Compare tentative perceptual image and past store
7. Test cues e.g., ask speaker
Match
8. Recode Identify language unit
BACKGROUND
No match
Reorganize language unit further
II. GETTING MEANING
LISTENING
9. Get meaning (Literal comprehension)
10. Intellectualize (Turn on) (Include creative problem solving)
III. THINKING BEYOND LISTENING

(Listening operates to include hearing, getting meaning, and making use of that meaning.)

What Is Missing from This Framework?

There are several items apparently missing from this model. For example, there are probably different stages of listening development with which the three facets—(1) material, (2) background, and (3) skills—probably interact in differing ways as the listener develops over a long period of time. Researchers do not know much about that either (another area for research). Variations in the material listened to, the setting, and the purpose probably would alter the model of listener activity. Also missing from this listener framework are all of the filters of masking from noise and rejection because of fatigue, personal blocks and destructive habits. Filters and distortions are missing partly because this is a flowchart for a supposedly proficient listener who knows how to cope in the best way possible with these masks. There are probably other omissions. (See also Flavell's book, *The Development of Role-Taking and Communication Skills in Children,* for schemes of egocentric and nonegocentric communication [1968].)

There is no treatment in this model of the channels involved in communication by listening, i.e., the restrictions imposed on the various media, e.g., communication by telephone, radio or tape recorder, and TV. All of these may involve monologue, small group, large group, and mass. Or the communication may incorporate the fullest use of the channels—face-to-face encounter. A face-to-face communication may use not only the acoustical word components of speech, but also all of the qualifiers of paralanguage (tone of voice, tempo, humming, snorting, etc.); also the kinesics or the nonvocal bodily movements used in communication (hand gestures, raised eyebrows, shoulder shrugs, and so on); also the tactual and chemical-electric possibilities; and most importantly, the possibilities of feedback. The media which use primarily the listening (or acoustical) channel (phone, radio, tape, TV) are lacking one or more of these components possible in the face-to-face channel. There may be a need for accounting for these deficiencies in a complete framework, especially among various dialects and ethnic groups. (See the research in progress of Dr. Mary Key, Program in Linguistics, University of California, Irvine.)

Admittedly, the framework is incomplete, bringing an invitation to play with it, to alter it, to personalize it as more is learned about listeners in the classroom. The model is in-

tended to give a skeleton to hang isolated bits and pieces upon so that they are more useful, more retrievable, more meaningful. (See also Neisser's [1967] "analysis-by-synthesis" model of speech perception.)

A Summary

The objective of this chapter was to present a broad complex concept of listening and its interrelationships according to the state of present knowledge and speculation. Sections defined listening by a variety of approaches. Listening has apparently had various partial definitions confounding understanding of it as an area for instruction and research. For example, it has been confused with hearing and attention (or the appearance of giving attention), or it has been given a mistaken identity as a completely natural process similar to heartbeat, outside of the realm of instruction. There has been ignorance of its contribution to other language activities, its complexity, and its many parts and steps.

The first definition compared listening to other language processing operations—reading, speaking, and writing. The question was: "What's it like?" Listening is like reading mainly because both refer to processes of receiving language and both operate from the same base of language experience. Listening is like speaking because both use spoken words in the process.

The second definition noted comparative attributes for listening and for reading. The question was: "What is exhibited along with listening?" For example, as minimum language features, "phonemes" were listed for listening and "letters" for reading.

Third was the definition by classification and categorization asking, "Where does listening fit into a scheme?" The presentation took a backward look at the other language processing activities—reading, speaking, and writing. Upon speculation about the place of listening instruction, it came first both chronologically (developmentally) and temporally. Listening may be the opening key to the box of language progress.

Fourth was a structural definition asking, "What parts does listening have?" Discussed were (1) previous knowledge, (2) listening material, (3) physiological aspects, (4) attention and concentration, and (5) auditory comprehension and other intellectual activity which is highly conscious. Those parts that

were also operations were mentioned again in the last definition.

Fifth was an operational definition which asked, "How does listening work, or what does a listener do?" Listening (similar to reading) is probably in part a sampling process focused on hypothesis testing. Given spoken discourse, it is likely that the listener (1) hears, (2) holds sound in memory, (3) attends, (4) forms tentative images, (5) searches, (6) compares, (7) tests cues, (8) recodes, (9) gets meaning, and (10) intellectualizes beyond listening.

The flowchart presented for steps taken by a proficient listener has three major parts: responding and organizing, getting meaning, and thinking beyond listening.

Now that there are many associations developed for each of the words, the simple definition at the beginning of the chapter becomes more meaningful—"Listening: the process by which spoken language is converted to meaning in the mind." Remember, however, that complex processes are inadequately defined in one sentence and even in a paragraph.

The next chapter begins to build a framework for a taxonomy of listening skills currently described in the literature. The framework just presented is relevant to that taxonomy.

Chapter Three

SOME PARAMETERS FOR A TAXONOMY OF LISTENING SKILLS

When Ralph Kellogg was developing a pilot study on listening (1966), he went about asking teachers: "What's a listening skill?" Most of the time he found inability to respond. To fill this need, he formulated a simple model through which he felt listening skills might be generated. He envisioned a grid-like framework: a lowest level for skills in acuity or perception of sound, level I; a middle one for discrimination between sounds, level II; and the most complex and highest level for comprehension of what the sounds mean, level III. At this last level sounds became linguistically symbolic. Abilities at these levels probably form a hierarchy because a person who cannot distinguish differences in sounds with considerable finesse probably cannot symbolize verbal meaning from those sounds. Some of the steps in the model of proficient listening in the previous chapter probably could be fitted into Kellogg's levels: Skills of Acuity probably includes aspects of steps one to three; Skills of Discrimination, steps four to eight; and Skills of Comprehension, steps nine and ten.

Kellogg's next job was to superimpose types of content upon these three levels of skills to complete a matrix for a taxonomy. He suggested: A. Sounds of Nature, B. Sounds of Man-made Objects, C. Sounds of Language. A grid of skills might be represented:

Sounds

Levels of Skills	A	B	C
I			
II			
III			

Taking the last cell on the right which is darkened (Skills of Comprehension–Sounds of Language), Kellogg suggested that this model be expanded by running various skills of comprehension down one side of a matrix and various units of language across another. Kellogg suggested that the units of language organization might start with words, then sentences, paragraphs, and a total composition. Total composition is a neglected unit in listening instruction during which many types of organization and relations emerge.

To depart from Kellogg, the comprehension skills could reflect the classifications in the Bloom *Taxonomy of Educational Objectives,* Cognitive Domain: 1. Knowledge of Specifics, 2. Comprehension (translation, interpretation, extrapolation), 3. Application, 4. Analysis, 5. Creative Synthesis (divergent thinking), and 6. Evaluation. (See Figure 4.)

Figure 4

Comprehension Skills	*Units of Language Organization*			
	Word	Sentence	Paragraph	Total Composition
Evaluation				
Synthesis				
Analysis				X
Application				
Comprehension				
Knowledge of specifics			X	

Probably much of the taxonomy on the affective domain (Krathwohl and others) could be incorporated as skills concerning listening attitudes and values.

Examples based on the chart in Figure 4 might be (1) listening for a detail mentioned in a paragraph–possible classification: Knowledge of Specifics, Paragraph (See the X marking it at the bottom of the chart.); (2) listening to tell how one idea in a composition has been related to another (possible classi-

fication: Analysis, Total Composition, marked with an *X* on the right of the chart). Following the grid, skills might be selected for development moving from simple to more complex, from smaller units to larger units of language. Other examples of skills are given in lists later in this chapter. Kellogg worked with skills at first-grade level which were adapted from related studies. These skills were context clues (possible classification: Comprehension by Translation); discriminating between fact and opinion (Analysis and possibly Evaluation); main ideas (Analysis) and logical inferences (Analysis).

As an alternate to Kellogg's simple recommendation for language units comes a classification suggested from the work of Carroll (1968). This scheme could be added across the top of Figure 4:

Units of Language Organization

Phonology	*Lexicon*		*Grammar*	
(sound)	Morphemes, Words, Idioms	Semantic and Grammatical Components of Lexicon	Morphology and Syntax	Semantic Components

Thus, a more detailed classification of language signalling systems and information processing might include not only the semantic meaning of words, sentences, paragraphs, and compositions but also at least (1) the ways word affixes influence the semantic meaning and syntactic function of words; (2) the ways phrase and deep structures are assigned to sentences; (3) the ways surface and deep structures of sentences govern the modifications of word and phrase meaning; (4) the identification of antecedents of pronouns, pro-verbs, words or phrases standing for some phrase, sentence, or larger unit in a passage (anaphora); and (5) the ways structures are assigned to and modify what in spoken discourse might constitute paragraphs and larger units of discourse (Bormuth, 1969). This classification does not mean, "Teach children formal grammar and rhetoric." Children can learn to respond to the signalling systems of language without having conscious knowledge of even the existence of formal grammar and rhetoric (Bormuth, 1969). It does mean developers should take language units into account when formulating skills.

There was also suggested a classification of performance abilities which could add other dimensions to the skills: speed of response, diversity of response, and awareness of linguistic competence (Carroll, 1968). Examination of the listener's response indicating his skill might also show his flexibility in using concrete and abstract thinking.

What about skills of attending, tuning out distraction, and memory—prerequisites to listening? Maybe there are categories of prerequisite skills that need to be developed with respect to a variety of sounds and content. A return to the steps in the model in chapter two (before the step of getting meaning) might also reveal a series of skills for such a matrix. These prerequisites have not been developed in commercial materials for schools to any extent, largely because they have not been brought to a conscious level and definition outside of the laboratory.

That listening skills do not contain just "listening" soon becomes apparent in this sort of exercise. Listening is bound up with a grasp of vocabulary, with attention, factual recall, the speaker's purpose, imaging, all manner of thinking skills that do not necessarily require language symbols for operation.

In fact some researchers in the field of listening would suggest concentrating not on comprehension skills but on auditory skills of perceptual acuity and discrimination in order to sharpen up aural reception of the message. But thinking skills do not necessarily transfer across ways of receiving (e.g., from reading to listening) without some carefully planned teaching and experience to take the learner in the transfer direction. Disadvantages of time pressure and interference from person context of listening make it just as worthwhile, if not more so, to develop comprehension skills in conjunction with listening as with reading. In fact probably the place to begin work on advanced comprehension skills is during listening.

The rationale of the makers of tests and commercial programs for selection of skills appears to be based on collective opinion of authorities as to which skills are worth the effort of measurement and training. Sophisticated means of statistical analysis may be of some help in verifying skills, but the measures that go into the analysis and the interpretation of results will still depend upon the designer's observations and subjective thought about listening. Obviously, the state of the art has

not reached the point where educators can speak of *the* list of listening skills.

But at the same time, effective instruction is likely to be based on skills and behaviors defined as clearly as possible. The "shotgun" approach has probably not assisted children as effectively and economically as possible in reading and in writing. Probably the same finding is true for listening. Take the instructor who plans this way: "I am going to set up an activity and a way of observing that will show me if this child is distinguishing fact from opinion in this type of sentence, using this type of question, calling for this type of response; or is able to accurately recall the man's message as distinct from the competing woman's message on this tape; or is able to repeat a sound sequence that I tap." This instructor will probably have pupils who are gaining skill faster than the teacher who says vaguely, "I'm going to teach more listening." If the first teacher also has a sequence of development (rather than an isolated activity) laid out, skill gaining will probably progress even further.

In one intriguing study related to listening skills and behaviors, the researcher constructed a ninety-five item Q-Sort representing habits, attitudes, practices and understandings which the individual could place into ranked piles in order to describe himself as listener (Pflaumer, 1968). Here are some slightly modified examples: "Item 20: Integrates what he hears with what he already knows." "Item 25: Notes the effect of what he hears on himself and notes the effect that knowing has on him." "Item 31: Uses visual cues such as lip reading and facial expression when listening." Here is a productive area for further study with possibilities of identifying individual listening styles, strategies, and strengths.

Thus far this section has presented a matrix or grid approach to classifying listening skills. This classification moved from acuity to discrimination to comprehension with six levels. If six cognitive levels are too formidable, then consider a split of two levels labeled *general listening* and *critical listening*. In *critical* the scheme implies the use of a highly conscious standard or criterion for evaluating spoken material while comprehending. In other words the Bloom taxonomy would be split with the first five levels in one group and the last level, "Evaluation," by itself. Evaluation, synonymous with critical listening,

is supposedly the most difficult and complex and encompasses all of the earlier levels of the Bloom taxonomy. Such a compendium of skills (or goals) might look like this:

Comprehension

General Listening Skills or Goals

1. To remember significant details accurately.
2. To remember simple sequences of words and ideas.
3. To follow oral directions.
4. To understand denotative meanings of words.
5. To understand meanings of words from spoken context.
6. To listen, to answer, and to formulate simple questions.
7. To paraphrase a spoken message.
8. To understand connotative meanings of words.
9. To identify main ideas and to summarize (the who, what, when, where, why).
10. To listen for implications of significant details.
11. To listen for implications of main ideas.
12. To understand interrelationships among ideas expressed or implied and the organizational pattern of spoken materials well enough to predict what will probably come next.
13. To follow a sequence in: (a) plot development, (b) character development, (c) speaker's argument.
14. To impose structure on a spoken presentation, sometimes including note-taking, by: (a) realizing the purpose of the speaker, (b) remaining aware of personal motives in listening, (c) connecting and relating what is said later in the presentation with earlier portions, (d) detecting transitional words or phrases which refer the listener back or carry him along, (e) detecting the skeleton of main and supporting points and other interrelationships.
15. To connect the spoken material with previous experience.
16. To listen, to apply, and to plan action.
17. To listen, to imagine, and to extend for enjoyment and emotional response (includes appreciation for aesthetic, artistic, dialectic richness, felicity of phrasing, rhythmic flow).

Critical Listening Skills

1. To distinguish fact from fancy, according to a criteria.
2. To judge validity and adequacy of main ideas, arguments, hypotheses.
3. To distinguish well-supported statements from opinion and judgment and to evaluate them.
4. To distinguish well-supported statements from irrelevant ones and to evaluate them; to sort relevant from irrelevant information.
5. To inspect, compare, and contrast ideas and arrive at some conclusion in regard to them, e.g., the appropriateness and appeal of one descriptive word over another.
6. To evaluate use of fallacies such as: (a) self-contradictions, (b) "skirting" the question at issue, (c) hasty or false generalization, (d) false analogy, (e) failure to present all choices, (f) appeal to ignorance.
7. To recognize and judge effects of devices the speaker may use to influence the listener, such as: (a) music, (b) loaded words, (c) voice intonation, (d) play on emotional and controversial issues, (e) propaganda, sales pressure, i.e., to identify affective loading in communication and evaluate it.
8. To detect and evaluate bias and prejudice of a speaker or point of view.
9. To evaluate the qualifications of the speaker.
10. To plan to evaluate ways in which the speaker's ideas might be applied in a new situation.

This list of skills is a compilation from many well-known authorities including Berry, Brown, Early, Hogan, Nichols, Niles, and Russell. Of course separation is difficult. To say that a highly conscious standard is not applied during evaluative thinking during the first group of skills might be a mistake. But evaluative thinking is probably present to a far higher degree in the second group of skills.

Or consider another more common two-way classification of listening skills—skills concerned with: (1) accuracy of reception, (2) mental reaction and reflection. Or another two-way grouping might include: (1) cognitive, (2) affective.

Historically, this kind of listing represents the usual attempts at defining skill in listening comprehension (and in reading comprehension). Recently another perspective has raised serious questions (e.g., Bormuth, 1969, 1970). This perspective runs like this.

Attempts to Define Comprehension Rigorously

As can be seen from the list just given, comprehension has been defined almost wholly in terms of mental processes. But since mental processes are not directly observable, attempts to describe them in terms of skills turn out to be confusing to practically everyone. These skills are probably invented this way. The author begins by trying to examine his own mental activities as he listens, and as he examines them he tries to identify each of the different processes he employs. After he names each of his mental processes, he tries to describe them. Next he may make up a test to measure each skill, sometimes submitting his tests to a panel of judges. Teachers are told, for example, that one important listening skill is comprehending the important facts in a spoken message. But the definitions of this skill never explain what a "fact" might be or how to decide if the fact is "important."

Listening comprehension is clarified when it refers to an increase in the amount of information a child can exhibit as a result of exposure to a spoken message. First of all, comprehension is a response to a language system, rules describing how the language system works to transmit information, specific features of language as derived from descriptive devices in rhetoric, semantics and logic as well as structural linguistics. Kellogg, Carroll, and Bormuth have each expressed this realization but in various degrees of specificity. Bormuth goes further in specifying a *comprehension unit* that includes not only information encoded in language, but also includes questions and response-types necessary to exhibit that comprehension of information.

Bormuth gives four criteria for skills: (1) Does the task relate to a definite language feature? (2) Does the task including the question asked enable the child to use the skill one thinks it does? (3) Is the construction of the task as objective as possible? (4) Can a teacher easily make a similar task to elicit this defined skill?

The next list, collected from at least fifty sources, represents some prerequisites for complex skills of listening. This compendium represents items that should be in the listener's and instructor's personal glossary. The list implies vocabulary background, a relevant skill in itself. Some of these ideas cued by phrases are common in the literature; others are less common.

Some Prerequisites and Considerations for Listening Skills

1. Memory span
   - 1.1 Auditory memory span for meaningful sound sequences and syllables
   - 1.2 Auditory memory span for nonsense syllables
   - 1.3 Auditory memory span for words, sentences, paragraphs and other linguistic features in organized and disorganized discourse (See section on discriminations.)
2. Further elements of a working vocabulary for listening
   - 2.1 Hearing
   - 2.2 Listening (understanding the difference between these terms)
   - 2.3 Auding (including levels of listening, showing increase in consciousness and complexity of comprehension and processing skill)
   - 2.4 Two-way responsibility for communication
   - 2.5 Having a flexible purpose for listening
   - 2.6 Optimal use of left-over thinking space (or thinking time) while listening
   - 2.7 Similarities and differences between listening and reading (e.g., contexts: person context, time pressure, material or hardware-medium . . . the medium may be the message)
   - 2.8 Empathetic listening
   - 2.9 Report versus emotive spoken discourse
   - 2.10 Interrelation of other language skills with listening skill
   - 2.11 Nonfacilitating barriers or "bad" habits in listening
     - 2.11.1 Labeling the subject as dull (negative attitude set)
     - 2.11.2 Over-reacting—failure to recognize the nonrational, the subliminal device, letting emotion-laden words get in the way of the mes-

sage, over self-assertion of emotional aspects of the communication atmosphere, personal antagonism

2.11.3 Inflexible purpose—e.g., listening only for details, detailed outlining of all input

2.11.4 Faking attention instead of directing and maintaining it ("tuning out")

2.11.5 Ease of distractability

2.11.6 Missing large blocks of the message

2.11.7 Listening only to easy material (avoiding challenging listening)

2.11.8 Wasting the difference between speech and thought speed

2.11.9 Daydreaming

2.11.10 Private planning, private parallel argument

2.11.11 Creating distractions

2.11.12 Inability to anticipate next point (inability to plan for and anticipate the message)

2.11.13 Inability to identify supporting material

2.11.14 Inability to summarize in own words

2.11.15 Inability to relate thinking to main theme of spoken material

2.12 Using the difference between speech and thought speed (tuning-in:turning-on)

2.12.1 Using related mental imagery, applying criteria, relating past personal experience to the message, entertaining many alternatives, adjusting to differing situations and individuals

2.12.2 Identifying focus words or organizational clues or signals, e.g., time signals, tenses, articles

2.12.3 Having a question set (i.e., gentle, exploratory probing)

2.13 Discrimination of:

2.13.1 Sound—stress, juncture (pause), pitch (suprasegmental contrasts), cadence, rhythm, emphasis, phrasing, rate, volume

2.13.2 Sequence

2.13.3 Sound contrasts—e.g., vowel, consonant

2.13.4 Grammatical contrasts (e.g., The business fails; The businesses fail.)

2.13.5 Reduced forms (e.g., You can't jog; You can

jog.)

2.14 Using context
- 2.14.1 Short message—without memory (mnemonic) devices
  - Component focus
  - Contextual focus
- 2.14.2 Long message—with mnemonic devices
  - Preparation for listening
    - Prior discussion of context and/or vocabulary
    - Giving the number of major points coming
    - Giving a partial outline
    - Question outline
  - Selective listening
    - Note taking
    - Listening for time signals, tenses, articles
  - Unguided reconstruction—summary

2.15 Finding the organizational skeleton in the spoken discourse

2.16 Avoiding the illusion that expression is communication

2.17 Knowing group-discussion rules, strategies and courtesies

2.18 Demanding meaning (conscious effort to increase vocabulary)

2.19 Encouraging upward communication (for a person in authority)

2.20 Using redundancy to reduce line loss

2.21 Avoiding overset for redundancy (Teacher always repeats directions many times so why bother to listen the first time?)

2.22 Improving the climate for communication

2.23 Making a listening inventory

2.24 Keeping a listening log

2.25 Constructing standards for effective listening

2.26 Appreciating unexpressed meanings (Rarely do we say exactly what we mean or mean exactly what we say.)

2.27 Understanding the concept of noise pollution

2.28 Listening appreciatively: sensing emotions, moods, manner of delivery (the inquisitive wheeze of an opening drawer, the gossipy whisper of a broom)

2.29 Listening with patience

2.30 Getting horizontal transfer from listening skills to reading and the reverse
2.31 Listening critically, e.g.:
  2.31.1 Evaluating hearsay evidence
  2.31.2 Evaluating hidden assumptions in oral speech
  2.31.3 Evaluating point of view
  2.31.4 Spotting and evaluating speaker's purpose, intent

The next step after formulating some dimensions for a taxonomy of skills might be to choose for instructional emphasis those of cultural importance and of particular relevance to the target group's age level, attention span, and diagnosed weaknesses. Although cross-sectional and longitudinal studies indicate step-wise growth, they tell little else about selection and placement of skills other than what common sense and a knowledge of child development already indicate. Perhaps the worst error has been to underestimate the vocabulary, grasp of language, and complexity of thinking process that even the youngest child in school has.

The following material is an example of skills or objectives selected for a fifth-grade population in some Southern California counties (Lundsteen, 1969). There is a block diagram (Figures 5 and 6) and a description of a tentative hierarchy of some general listening skills and some critical listening skills. Chapter four touches on the measurement that was used to assess these skills.

Tentative Hierarchy of Some General and Critical Listening Skills

A designer of an instructional hierarchy* usually determines the final tasks for the child and then asks the question: "What does the child need to be able to do to perform this task successfully?" Then an objective is added. This procedure is continued with each subordinate objective eventually defining a hierarchy of objectives extending to the entering or prerequisite skills for the child in this program. Immediately following each block diagram are the lists of objectives for pupil behavior in a more complete statement, the numbers

*Diagrams of hierarchies are usually seen starting at the bottom of the page and working up, but in order to make an association quickly with the elaborated objective, there is instead a top-downward order.

corresponding to the diagram. This material gives the teacher a quick overview of the behaviors to be practiced and evaluated. There are two hierarchies presented in this chapter: (1) a supporting one for general listening and (2) one for critical listening.

Verbs are important in objectives. Some of the major verbs in these objectives are adapted from the work at the Southwest Regional Laboratory in Inglewood, California, as found in a paper by Baker and others, "Constructing Behavioral Objectives," 1968: (1) identifying, (2) naming, (3) ordering, (4) describing and (5) constructing. The verb *construct* as used here reflects a verbal product produced autonomously by the child but guided by criteria, rather than by a concrete object designed and assembled. *Identify* is nonverbal in response while *name* is verbal, *describe* includes recall or identification of characteristics.

An objective in the hierarchies which follow may include several of the verbs, especially if the verb is the last and perhaps most complex behavior, *constructing*. During a lesson the same objective may appear calling for all five action levels —calling for a response in which child behavior varies from pointing to a word on the board to constructing on his own a revised criteria for evaluating hypotheses.

The prerequisites may be initially possessed by the child at a relatively low degree because these prerequisites continue to operate, be reinforced, interrelated and practiced as the hierarchies progress.

Subskill: General Listening Objectives

1. *Distinguishing Hearing from Listening (Prerequisite)*: For example, the child identifies, names, describes, discriminates nonverbal and incomprehensible sounds in contrast to verbal messages that he comprehends.
2. *Demonstrating Two-way, Listener-Speaker Responsibility (Prerequisite)*: The child names, describes, distinguishes (true-false questions), demonstrates (e.g., during "bring-and-brag" time), constructs, applies, and states principle of responsibility for two-way communication.
3. *Selecting Facts and Details*: Given four possible choices after listening to a selection, the child recalls and identifies facts and details within the selection.
4. *Sequential Ordering*: The child recalls and identifies sequential order; responds to such questions as, "Which came first in the story?"

Figure 3

Tentative Learning Hierarchy
Subskill: General Listening Objectives

5. *Selecting Main Idea*: The child recalls verbal information, orders, distinguishes, constructs, and identifies the main idea from among the four choices given.

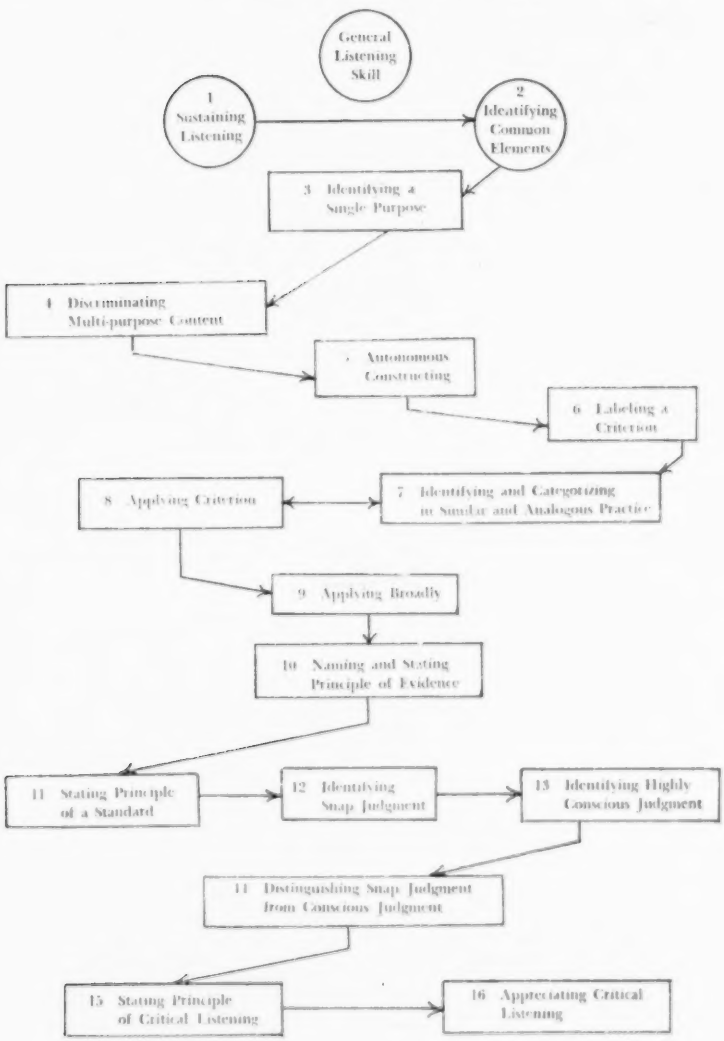
6. *Summarizing*: Covertly, the child recalls, describes, details, distinguishes, orders many main ideas, and overtly identifies a summary statement from among four choices given; responds to questions such as, "Which title best covers all of the ideas in the story?" or "Give one sentence telling what the story is about."

7. *Relating One Idea to Another*: The child recalls, describes details, distinguishes, summarizes (all covertly), and overtly identifies a valid relationship from among four choices; responds to questions such as, "Finding a Cobra was related to which of these ideas?"

8. *Inference Making*: Covertly, the pupil recalls, describes details, distinguishes, orders, summarizes, identifies relationships, and overtly identifies a correct inference from among four choices; responds, for example, to "The story leads us to believe that . . ."

Figure 6

Tentative Learning Hierarchy
Subskill: Critical Listening


General Listening Skill
1 Sustaining Listening
2 Identifying Common Elements
3 Identifying a Single Purpose
4 Discriminating Multi-purpose Content
5 Autonomous Constructing
6 Labeling a Criterion
7 Identifying and Categorizing in Similar and Analogous Practice
8 Applying Criterion
9 Applying Broadly
10 Naming and Stating Principle of Evidence
11 Stating Principle of a Standard
12 Identifying Snap Judgment
13 Identifying Highly Conscious Judgment
14 Distinguishing Snap Judgment from Conscious Judgment
15 Stating Principle of Critical Listening
16 Appreciating Critical Listening

Subskill: Critical Listening Objectives

1. *Sustaining Listening (Prerequisite)*: The child listens all the way to the end of the message; for example, he identifies and discriminates meanings in periodic sentences and surprising last words which are embedded in lessons for prerequisite testing purposes.

2. *Identifying Common Elements (Prerequisite)*: The child identifies a component within an example in which a speaker gives experimental fact, historical fact, or observational fact; plays on words, uses exaggeration or surprise; or "paints" a funny word picture. (Prerequisite: listening for details)

3. *Identifying a Single Purpose*: The child listens critically (applies criterion or judges in light of criteria) to a message with supposedly one purpose.

4. *Listening Critically to Multi-purpose Content*: The child listens critically (applies standard or criterion) to a longer message with multi-purposes, e.g., to give facts, to persuade, and to be humorous.

5. *Autonomous Constructing*: The child constructs examples of his own.

6. *Labeling a Criterion*: The child names and stores the preceding common elements found in the formulating of facts or of humorous discourse as a set of classes and as criteria for later use in judgment.

7. *Identifying and Categorizing Fact and Discourse, Opinion or Humor in Similar and in Analogous Practice*: Given an example, the child names "giving facts" or "being funny" as a speaker's purpose and can tell criteria used and the details that fit criteria.

8. *Applying Criteria*: The child applies criteria when listening to mixed examples in order to match the message with a main purpose—to be factual, funny, or to give opinion (in a recognition situation).

9. *Applying Broadly*: The child applies criteria to reported "on-your-own" experiences outside of the class lesson time.

10. *Naming and Stating Principle of Evidence*: The child names and states the principle of noticing evidence in order to apply criteria. (There must be evidence or reasons to back up judgments, e.g., elements of facts or of humor.)

11. *Stating Principle of a Standard*: The child states the principle of using or creating a standard by which to judge. (There must be a standard used consciously when judging, e.g., related to discrimination of humor.)

12. *Identifying and Naming Snap Judgment*: Given examples, the child names elements of behavior indicating snap judgment (e.g., did not

listen all the way to the end, did not notice evidence, did not use or cannot name and apply a standard).

13. *Identifying and Naming Highly Conscious Judgment*: Given examples, the child names elements of behavior demonstrating highly conscious judgment (e.g., listening all the way to the end of the message, noticing evidence or details of humor, naming and applying a standard).

14. *Distinguishing Snap Judgment from Highly Conscious Judgment*: The child identifies, names, describes and distinguishes between snap judgment or opinion and highly conscious or reflective judgment when presented oral, train-of-thought examples of each.

15. *Stating Principle of Critical Listening*: The child describes the principle of or defines critical listening in his own words, including *evidence, standard,* and *highly conscious judgment,* or verbalization similar in meaning, and tells the function of each.

16. *Appreciating Critical Listening to Speaker's Purpose*: Given illustrative examples, the child expresses or states the "principle" to the effect that "If you don't listen critically, you may be fooled or miss a lot of fun." Observation of behavior in class, lessons including discussion show acceptance and even preference for critical listening (but in a way that does not antagonize and block further communication).

In summary this chapter presented some past and current ideas concerning a taxonomy of listening skills, the dimensions of these skills, their prerequisites, ways of classifying them, a "brainstorming" of considerations, a suggested method for formulating skills into learner objectives and arranging them in tentative hierarchies. There were examples designed to encourage further thought about and generation of objectives appropriate to a target population of learners. Still one of the most complete sources for a compendium of listening skills is the book by Russell and Russell (1959), *Listening Aids through the Grades.* This manual arranges 190 activities into three levels, Kindergarten, Primary and Intermediate, and goes from general to simple and specific, and to more complex.

The next chapter takes up the topic of measurement available for classroom diagnosis of these skills.

Chapter Four

WHAT ABOUT MEASUREMENT AVAILABLE FOR CLASSROOM DIAGNOSIS?

This chapter examines criticisms and rationales for listening tests in general, standardized tests, unpublished tests, publishers' informal assessments which accompany their instructional materials, and informal devices such as coding sheets, standards, and checklists. Information in this chapter is intended to increase the reader's sensitivity to the quality and variety of available techniques.

Educators, whose values and understandings caused them to advocate listening instruction, wanted ways of knowing what skills children had, what they still needed to master and if they were learning anything as a result of new materials, activities, and teaching strategies. Even before clear, theoretical and statistical evidence existed that separate listening abilities operate, some researchers had attempted to measure them. The lack of an integrated, conceptual framework for listening meant that these tests lacked agreement in what they measured. Some researchers (a profession not noted for the reticence of its criticism) have leveled sharp condemnation at all of the measurement attempts, though none of them seriously wants to stop the effort. The measurement of hidden behavior by making inferences from responses is a rather frustrating challenge, but such an interesting goal that some are still willing to risk failure and ridicule to carry on the attempt to understand this "molecular cloud."

Criticisms and Rationale

Probably all empirical research in the growth and attainment of listening skills has rested upon observation or tests of performance—a special variety of observation. In testing it is difficult to rule out extraneous cues that help the individual respond in the desired way, hinder him, or introduce an overload of artificiality. (See Carroll, 1968.) For example, it is

likely that in testing situations some of the "best" listeners may have high mental ability and are normally relatively inattentive under nontest circumstances; and some others simply do poorly in a test environment. (See Kelly, 1967.) Another extraneous factor deplored in tests of mental ability is cultural bias. A study by Smith (1956) found cultural bias as much a factor in listening tests as in reading tests.

Listening tests may be fragile. They may measure little that is unique, and they need to be at precise and optimal difficulty level for individuals taking them. For a larger picture there need to be "live" listening situations which examine the child in a wide range of activities—from boredom to panic. A complete profile may call for highly specific, imaginative—even devious—ways to study and evaluate listening behavior. Listening tests need to progress toward a finer linguistic analysis of listening competence. Most listening tests have been based on an inadequate rationale of language skills in general.

But without testing, the teacher does not know if the child is practicing the correct process, the incorrect process, or is blithely ignoring the whole undertaking. Equally important, the child cannot guide his own learning without feedback. Repeated exposure to material may give little sense of direction. Children need chances to make responses that show they have listened. Well-designed test questions help. But then children also need to be taught skills of question answering. Bormuth (1969) suggests a unit of instruction: (1) the language message, (2) the question, and (3) the response. The point is that both the test questions and language features give independent difficulty. Test design needs to take into account relative difficulty of different types of linguistic features and also relative difficulty of various kinds of questions. Test makers have rarely accounted for or given a breakdown of these features. This lack makes interpretation of past test results questionable.

Here are some current thoughts about the theoretical framework or rationale for listening comprehension tests. Ability in listening comprehension refers to generalized knowledge-acquisition skills exhibited as a consequence of hearing spoken material. (This statement is adapted from Bormuth's general definition of comprehension, 1969.) Moreover, testing of listening comprehension includes not only processes necessary to get

information from spoken language, but also additional skills needed to exhibit information, for example, as Bormuth suggested, to answer questions or respond to tasks showing what the listening produced for the individual. Listening comprehension refers not only to mere storage and retrieval of language information, but also to transformation and thinking beyond the material (extrapolation) (Marks and Noll, 1967).

The best listener (with respect to general, literal comprehension) in any group is one who most consistently, in the least time, and in the greatest variety of circumstances, most closely approximates the speaker's meaning in the widest variety of spoken material (adapted from Brown, 1954; Carroll, 1968). From this writer's point of view, the best listener also is capable of using his listening skill in the widest range of thinking processes. This range goes from simple associations to highly complex, conscious, creative, critical, and problem oriented processes. He is the one who best makes sense out of sound. Superior performance in listening skill probably not only requires possession of a wide range of basic competencies but also the ability to *mobilize* them for a particular communicative situation.

The point of view in this monograph is that testing should go on past literal comprehension to evaluate the listener's ability to appreciate aesthetically and to judge. But, admittedly, it is highly questionable that he can do that if he cannot comprehend in any literal sense.

Achievement tests are different from comprehension tests. Achievement tests of listening tell how much of the knowledge in a particular spoken selection of a particular subject matter category the child can acquire and exhibit. Comprehension tests tell how well he can get knowledge generally and from what general type of material (with similar linguistic features). This function is not operating in achievement tests for which subtests are simply grouped by subject category lines. (These ideas are also adapted from material by Bormuth, 1969.)

The primary assumption is that listening ability is a variable. Other assumptions are that it varies with maturity, intelligence, hearing, interest, subject matter, and command of language; it is learned behavior. A further assumption is that listening ability is measurable; it can be measured reliably with

logically valid tests which sample skills in comprehension and recall of the meaning of spoken language, even (according to a study by Caffrey, 1953) when tests are given by different examiners.

One way to investigate some of these assumptions about separate skills or abilities is by statistical means of which one technique is factor analysis. While attempting to investigate the domain of listening, Spearritt (1962) appeared to isolate a factor of listening comprehension as distinct from the verbal knowledge factor found in written tests (probably skills in reading). That listening comprehension and verbal knowledge factors were correlated to some extent probably reflects common dependence on background knowledge of vocabulary and language structure. The listening comprehension factor was relatively independent of auditory resistance and span memory. Some of the findings of this study at grade six have been supported at high-school level (Caffrey, 1953) and at adult level (Taylor and others, 1958). Such testing and study at earlier ages and the longitudinal studies needed to establish individual growth curves in these separate factors have not been made yet.

Standardized Tests

A standardized test has commonly been given to a sample that represents the market population. The information from the scores has been presented to show the range of performances expected from this population of users.

Some uses of a standardized listening test are:

1. To assess the range and distribution of listening ability in a particular group so that difficulty of oral material can be adjusted.
2. To assess and predict the listening ability of individual children (in a *rough** way) with respect to language features.
3. To direct placement, instruction and improvement of instruction.
4. To see if the child has learned what he is being taught or needs more of various kinds of instruction.
5. To measure the improvement of listening skill over a period of time.

*Even reading readiness tests after many years of revision still have low predictive value for individuals.

6. To estimate reading potential.
7. To compare reading and listening skills in order to make the most of the best mode of reception.
8. To give children feedback on the results of their efforts and to give evidence for advising next steps.
9. To test assumptions, proposals, and models about listening.

Two useful tests for assessment of abilities basic to listening are the *Illinois Test of Psycholinguistic Abilities* (ITPA) and the *Wepman Auditory Discrimination Test.* ITPA is published by the Institute for Research on Exceptional Children at the University of Illinois for individual use with children between the ages of two-and-one-half and nine. It has subtests relevant to listening: at the representational level, *Auditory Decoding,* and *Auditory-Vocal Association*; at the automatic-sequential level, an "automatic" test, *Auditory-Vocal Automatic Ability,* and a test of "sequencing," *Auditory-Vocal Sequencing.* Carroll (1968) describes this battery and critiques it. The *Wepman Auditory Discrimination Test* (ages five to nine) assesses ability to discriminate changes in frequency, intensity, or pattern of auditory stimuli. (See Stern, 1969, for a critique.) Upon being presented key words in pairs, the child is asked to say whether the words sound the same or different. (Chapter five mentions other basic ability tests.)

The *Brown-Carlsen Listening Comprehension Test* was the standardized, pioneer effort in the comprehension field. Designed to be used in grades 9 to 13, it can also be used at college and post-college levels. The seventy-eight items are grouped into five parts: (1) Immediate Recall; (2) Following Directions; (3) Recognizing Transitions (i.e., Is a sentence in a speech introductory, transitional, concluding or none of these?); (4) Recognizing Word Meanings (ten items); and (5) Lecture Comprehension (twelve minutes of continuous discourse). For the lecture comprehension section one factor analysis reported by Bateman and others revealed two factors labeled: (1) listening for details and (2) drawing inferences (in Duker, 1968). Brown suggested that ability to follow context clues appeared to be the single best test for separating "good" listeners from "poor" ones (1949). The words of caution and criticism mentioned at the beginning of this chapter also apply to this test.

The *STEP Listening Test* represents the attempt made by Educational Testing Service to measure listening comprehension in the series called the Sequential Tests of Educational Progress. The test appears to be built on the definition: "Listening is what happens when people are spoken to." (Kelly [rebuttal], 1967) There are two alternate forms for each of four levels: Level 1 (college), Level 2 (grades 10, 11, 12), Level 3 (grades 7, 8, 9) and Level 4 (grades 4, 5, 6).

The ninety items of the form suitable for the elementary grades are reported to measure: (1) Plain-sense Comprehension (identifying main ideas, remembering details and simple sequences of ideas, understanding word meanings); (2) Interpretation (understanding implications of main ideas and significant details, interrelationships among ideas, and connotative meanings of words); (3) Evaluation and Application (judging validity of ideas, distinguishing fact from fancy, noting contradictions, e.g., "judging whether the speaker has created the intended mood or effect"). The test items require not only understanding of the spoken discourse but also a wide range of prior knowledge and reasoning abilities.

Criticisms of this test refer to its mixing of reading and listening. Also there is the fact that many of the printed items on the test can be answered by pupils who have not heard the oral material.

There are three possible outcomes from a comprehension test: 1. The child knows the answer whether or not he is exposed to the material. 2. The child can select the correct alternative as a result of having been exposed to the material. 3. The child neither already knows the correct alternative nor learns it from exposure (Marks and Noll, 1967). Only knowledge gotten as a consequence of listening to the oral test passage actually represents listening comprehension. It is difficult to find a passage containing information about which a child knows absolutely nothing. But the *STEP* test (more than usual) appears to contain questions which a child can generally answer without listening to the test passage. Spearritt (1962) deleted many of these items after pretesting the questions without the stimulus passages on a pilot sample when he used the test in his study mentioned earlier. (Further information and critique is given by Carroll, 1968.)

Recently Educational Testing Service added tests of listening

in the *Cooperative Primary Tests* (1967). There are two forms for grades 1 and 2 and for grades 2 and 3 for unspeeded assessment. The teacher reads words, sentences, stories, expositions and poems. The child demonstrates his comprehension by marking appropriate pictures. In this test listening includes more than receiving the spoken word; it includes identifying illustrative or associated instances, recalling elements, interpreting the ideas presented, and drawing inferences. Time needed is about thirty-five minutes. A common type of item is the sample, "I went for a ride," with picture options of a boy swimming, a boy walking, and a car. The handbook encourages instructional-diagnostic use of local item analysis data for groups of children.

The *Durrell Listening-Reading Series* (group test) is designed to provide a comparison of children's reading and listening abilities. Revised in 1969, this Harcourt Brace Jovanovich publication seeks to assess both vocabulary and sentence comprehension at three levels, roughly grades 1-3.5, 3.5-6, and 7-9. The optional responses are also administered orally so that the child does no reading to confound the performance. The series is reported to measure the degree of retardation in reading as compared to listening.

In 1937 Harcourt released the *Durrell-Sullivan Reading Capacity Test* which Durrell envisioned as a listening test for preschool and primary and also for estimating a child's potential capacity for learning to read. The *Murphy-Durrell Reading Readiness Analysis* (for beginning first grade) includes subtests on auditory discrimination (phonemes in initial and final positions). It, too, is published by Harcourt. Furthermore, if the child can write, then a spelling test of unfamiliar words can cause a child to demonstrate his auditory discrimination as well as his encoding ability. Such a test including major letter combinations needed for writing English is the *Phono-Visual Diagraphic Spelling Test* (mentioned in Robeck & Wilson).

Unpublished Tests

One worthwhile source of ideas for assessing listening is the unpublished theses and dissertations in which tests have not been carried beyond one or two revisions. (The Brown-Carlsen test was once one of these measures.) Examples are mentioned

in reviews by Russell (1964), Duker (1969), and Lundsteen (1969a). The Duker (1968) annotated bibliography shows sixty-five entries regarding unpublished tests.

One interesting measure was a Spanish Listening Comprehension Test designed to evaluate elementary Spanish television instruction for grades 4 and 6. (Anastasiow and Espinosa, 1966) Another source is a large Title III, ESEA project in Alameda County, California, which has a battery of tests in preparation (Witkin, 1969). One is by Hedrick and Manning developed for the USOE project, Programs in Oral Communication, Alameda County, California. (These programs are detailed in chapter five.) During a ten-minute tape recorded test, students listen to two speakers giving conflicting instructions simultaneously at different signal/distractions ratios. Students circle or mark with X's certain pictures in their booklets in response to the auditory stimuli.

Another listening test was developed in order to identify educational potential among disadvantaged junior high school students by using appropriate content. Interviews suggested that this content include sports, adventure, biographies of heroes, spy and mystery stories (Orr and Graham, 1968).

An unpublished test of critical listening matching the skills described in chapter three has been described elsewhere (Lundsteen, 1969, a and b). Subtests were: (1) Detecting the Speaker's Purpose (humor, fact, persuasion), (2) Analyzing and Judging Propaganda, and (3) Analyzing and Judging Arguments. This seventy-nine-item test has explicitly stated standards told to the child for him to apply during the judgmental process.

The following is a test example for judging a speaker's purpose. (The directions preinstruct children in using a criterion for judging, and for the test situation an arbitrary criterion is furnished.)

> A boy is reading a want ad aloud to a crowd of friends:
> "For sale, big friendly dog. Eats anything. Loves children." What was the speaker's purpose?
> *1. To be funny
> 2. To give facts
> 3. To persuade
> Mark the number corresponding to your answer choice. (Pause 7 seconds.)

For the section of the test on propaganda there were nine analysis items (i.e., Which propaganda trick was being employed? bad words, glad words, bandwagon, glittering generalities, transfer, testimonial, plain-folks, cardstacking, side tracking). There were nine judgment items (bad, harmless, good). There were nine reason items ("Would you judge the propaganda as you did because . . . ?" followed by three reasons.) Each selection of propaganda was subjected to the three kinds of questions.

Here is an example of a test item from the propaganda instrument.

"Drive carefully; the life you save might be your own."

Question 38: What method is the speaker using to persuade you?
*1. Uses big, general, catchy ideas or slogans that appeal.
2. Makes you want to do as others do.
3. Gets a famous person to give a talk or testimonial in favor of the idea.
4. Uses a tempting idea that does not really belong.
Mark it. (7 seconds)

Question 39: How would you judge this propaganda?
1. bad
2. harmless or neutral
3. good
Mark it. (7 seconds)

Question 40: Because:
1. being too slow in driving can cause just as many accidents as not being careful enough.
2. you can try to remind people to be safe drivers, but you never change people very much.
3. every effort needs to be made to reduce death on our streets and highways.
Mark it. (7 seconds)

Scattered, unpublished tests such as these might be brought together to add to a theoretical framework for the testing of listening. (Also see Wilkinson, 1969, for British tests of personal relationship, varying registers of discourse, and prediction in conversation; and Friedman & Johnson, 1968, for an analysis of a variety of tests in order to determine their possible use as measures of speeded and unspeeded listening.)

Publishers' Tests to Accompany Materials

Ideas for preparing tests to measure listening skill are found accompanying the instructional materials from many publishers.

Science Research Associates (SRA). In 1969 SRA published the *Listening Skills Program*. This program consists of a twenty-four-item pretest and posttest. The pretest is actually intended more as a motivational device, as well as to give pupils a frame of reference. Questions are answered *yes* or *no*. Items refer to detecting rhyme, comprehension of details, inferences, sequence, main ideas, facts, and purposes; understandings about the listening act; and following directions. The teacher's manual also has an informal self-rating (answered *yes* or *no*) of pupil listening habits which may also be used as a pre- and posttest. Pupils next fill out a listening skills record according to the items missed on the test. The record shows which recording they should listen to for needed practice. After listening, pupils check the recording off the list. Pupil-teacher conferences are encouraged. The teacher's guide gives ideas for extended practice. (No data on the test are reported.) Instructional material is multi-level, multi-skill for grades 4, 5, and 6, and also supposedly includes instruction in cause and effect, creative listening and critical listening with the help of tape, record, or cassette.

SRA's earlier product was a series of Listening Skill Builders which were part of the *Reading Laboratory Series*. Testing follows each teacher-read lesson and pupils can enter results on progress charts in the pupil books.

Other measurement materials for listening are found, for example, in the *Botel Reading Inventory* where the Word Opposites Test may be given as a listening test instead of as a reading test. *My Weekly Reader* contains listening comprehension tests for diagnosis and practice. At primary levels pupils mark pictures, at upper-grade levels the pupils write a direct answer, usually calling for factual recall. Other programs, some of which contain some means of formal evaluation, are mentioned in the next chapter on materials.

These tests to accompany materials, the unpublished tests, and the standardized tests can serve as models for the teacher's own development of evaluation instruments. With awareness gained from familiarity with these measures, the teacher may gain insight into his own listening skills, *especially if he him-*

self actually takes parts of these tests. (See also the *Kindergarten Auditory Screening Test* just published by Follett. Using a phonograph record, the test measures (1) listening against noise, (2) synthesizing phonemes into words, and (3) telling whether or not words in pairs are the same.)

Informal Devices

Besides the formal test, much diagnostic information and data about growth can simply be observed (by pupil as well as by teacher) from pinpointing the behavior of significance, selecting appropriate time samples and tallying with a wrist counter or with marks and keeping records (charting). Individual and class logs, diaries, and anecdotal records of listening activity furnish survey material about amounts of time spent and provide data for classifications of purposes and types of listening behavior. Individual and small-group conferences and pupil-pairs are useful for personalizing evaluation and making it highly relevant. Gradually the class can record desirable behaviors, turning them into the form of class standards; standards can be turned into checklists. (For examples see Lundsteen in Duker, 1966; Russell and Russell, 1959.) An example of one checklist of behaviors follows. It was used in the Thinking Improvement Project* (Lundsteen, 1969).

Also, valued behaviors can be incorporated into coding devices used to evaluate the continuous discourse of class discussion and more and less formal social communications. The example which follows gives steps that an instructor might use and two coding sheets which might be duplicated and given to pupils. Material such as this is developed slowly and inductively with pupils. These were also used during the Thinking Improvement Project (Lundsteen, 1970).

Suggested Steps

1. Distribute coding sheet to pupils.
2. Discuss the coding sheet and check understanding of behaviors.
3. Play a segment of a tape recording of a class discussion.
4. Use the coding sheet as a guide.

*This project was supported mainly by the Charles F. Kettering Foundation and with some assistance by the University of Texas at Austin and the University of California, Santa Barbara.

Figure 7

Checklist of Listening Roadblocks

Use the checklist on this page for at least two lessons. See if you can identify any "roadblocks" you may have to better listening and remove them.

Hearing:	*Lesson*	*Lesson*
1. I often have trouble hearing what people say.	( )	( )
2. The speaker talked too softly.	( )	( )
3. He spoke loudly enough, but not clearly.	( )	( )
4. The room was too noisy:		
The noise came from (a) people around me	( )	( )
(b) outside the building	( )	( )
(c) the hall	( )	( )
(d) other sources—explain	( )	( )
Listening: attitudes, habits, capabilities		
1. I didn't pay attention because I wasn't interested.	( )	( )
2. I didn't pay attention because I was thinking about what I was going to say.	( )	( )
3. The speaker or sounds began before I got settled.	( )	( )
4. I was thinking about other things—explain	( )	( )
5. I couldn't understand so I quit listening.	( )	( )

Vocabulary:

1. These words or sounds were new to me: (1) _____
   (2) _____ (3) _____ (4) _____ (5) _____
2. I thought this word (1) _____ meant _____.
   I thought this word (2) _____ meant _____

Other Reasons Listening is "Roadblocked."

Skills or things I think I do well in listening or am showing improvement in are:

5. Encourage the children to be the question askers.
6. Discuss elements of listening behavior inferred from the responses (or lack of response) on the tape.
7. Replay the tape segment to verify the coding and confirm inferences by checking with the listener whose response is being examined.
8. Pupils can tabulate the frequency of occurrence of various items on the coding guide.
9. Pupils can see which desirable types of response have low or no occurrence and try to plan for more practice or situations which would elicit such responses.
10. These steps can be repeated in the small group.

Coding Responses of Listeners
(Skills and Elements in Listening)
Guide I

1. TW: Twenty responsibility

2. D: Details

3. Se: Sequence

4. M M: Main Ideas

5. S: Summary

6. R: Relationship

7. T: Transfer

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Lesson 74

Coding Responses of Critical Listeners

Guide II

6. I: Inference

9. A: Assumption (or taking for granted)

10. F: Fact 2 + 2 = 4

11. O: Opinion

12. H: Humor

13. CJ: Conscious judgment using a standard (critical listening)

14. E: Error (shocking habit)

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Teachers could also use graded children's texts and graded published paragraphs which form a diagnostic tool called an informal reading inventory. Instead of determining oral reading and comprehension level as depending on the most difficult selection read successfully by the child, the inventory can be read aloud to the child. Then the teacher can determine the highest level at which the pupil can understand material when it is spoken. This informal device might be helpful in getting a rough idea of listening comprehension with respect to a child who is linguistically different. One study suggested that the *McCracken Standard Reading Inventory* (which has published evidence of reliability and validity) might be used as a listening predictor of intelligence for elementary school children (Caccavo, 1968). Bordie, however, has deplored the sad state of measurement for linguistically different learners (1970).

If the listener's first task is to recreate in his own mind the "meaning" of the speaker, then an advisable assessment activity is to have the children compose passages for listening tests and have a hand in designing the questions to be asked about their passages. Then the child becomes the best authority on what he means and can settle conflicts of opinion that might arise.

Questions

Bormuth (1969) elaborated common types of questions that are thought to assess literal comprehension; among these are the "Rote Wh- questions" (who, which, what). He shows that by using nonsense words, this type of question does not test semantic comprehension with any certainty, but does form a base for questions which do.

For example, given a sentence having nonsense words, *The piabarn plushed into the wormstruffle*, even young children can answer "wh- questions" such as "Who plushed into the wormstruffle?" The answer, *the piabarn*, implies that in some situations questions of this type do not require necessarily that the child comprehend word meaning. The structure of the first sentence is something similar to: *The girl jumped into the spaghetti*, or (more likely) *the swimming pool*. Bormuth goes on to mention questions which encourage the respondent to comprehend the antecedents of later expressed ideas and inter-sentence relationships (a three-stage procedure of designing). His analysis emphasizes the (neglected) linguistic features of

questions.

Questions used in the Thinking Improvement Project (mentioned earlier) were designed to (1) help the teacher probe (during discussion) for readiness, (2) induce reinforcement, and (3) provoke elements which promote transfer (Lundsteen, 1968). This analysis attempted to emphasize the psychological-instructional features of questions. Figure 10 shows a suggested hierarchy of questions in one column, and in the column next to it the related portion of the teaching-learning approach that the discussion question was designed to promote. See the appendix of this monograph for sample lesson plans using this design.

Figure 10

*Design for a Series of Questions during a Class Discussion**

Suggested Question Hierarchy	Teaching-Learning Approach
	Readiness
What did you notice? What stood out for you?	→ Openness, verbal fluency, activation (All responses are recorded for all to see.)
To check up, what does this mean to you now?	→ Diagnosis of pupil boundaries of concepts Test
What did you hear? Who? When? Where? How? For what reason? Why?	→ Given data, focus and operate
Can more of you recall? What else? Mary? . . . Paul? . . . Sam?	→ Extend
Do we have enough ideas?	→ Retest
How would you group these things? Jeff? . . . Rosa? . . . Carl? . . . Tom? . . .	→ Lift to classifying → Extend
What name could you give to this group? Eddie? . . . Jose? . . . Martha? . . .	→ Lift to labeling → Extend (this type is continued throughout the discussion, sampling layers of the group)

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Figure 10 (Cont.)

Suggested Question Hierarchy	Teaching-Learning Approach
	Reinforcement
How did you feel?	→ Feeling tone
What did this do for you?	→ Feedback, retest
How can we evaluate?	→ Retest
What did you learn?	→ Direction
What did you get out of it?	
Where does this take us?	
What might be the next step?	
Can you sum up for us?	→ Summary
	Transfer
What could you tell an absent classmate about this discussion?	→ Meaningfulness
What did you understand?	
How could you use this someplace else? Another time?	→ Set for transfer
How was this like . . . ?	→ Similar elements
What might be the same?	
Did you ever?	
Could you also try?	→ New instances
Outside of this period would you . . . ?	

Perhaps the material in this section should be in the chapter on techniques of teaching listening. But there is much about testing that is inseparable (fortunately) from instruction. Probably the most productive testing is that which is also instructional.

Affective Response

Terms such as *aesthetic appreciation, emotional response,* and *empathy* found in some of the suggested skills in chapter three suggest areas of communicable experience which are difficult to explore by means of quantifiable test responses. Laughter, tears, and signs of embarrassment may give better evidence of

listening than any objective test yet designed. But such evidence is colored by the listener's control of his expression, and the power and the bias of the observer. Standardized tests, nonetheless, will not satisfy the need for day to day assessment, especially of long-range effects and specific requirements of a particular individual or group needing exposure to a wide variety of dialects and usage.

Summary, Cautions, and New Directions

This chapter has dealt with the background, rationale, and criticism of standardized and unpublished tests of listening. The last section discussed informal means of assessing listening.

Actually, the teacher who asks a child to repeat last-minute instructions is administering an informal listening test, with results which may have predictive value for similar encounters. A supervisor who adjusts his speech according to his estimate of his listener's ability to interpret it estimates ability to comprehend spoken language. A principal is testing listening when he adopts one level of talk for a child of six and another for a child of twelve, and when he revises his estimates in light of his listeners' responses. But in each of these instances, the immediate if not the only interest of the "tester" is not to find out about general listening ability, but to find out about grasp and retention of specific information. Two studies suggested that the average teacher's unaided assessment of the listening ability of individual children, even after months of opportunity for observing, is highly unreliable (Brown, 1954; Caffrey, 1953). Both informal and formal means of assessment have a place.

However, the trouble with using a multitude of paper-pencil-type evaluations is that they may give little or no opportunity for a child to see the genuine consequences of how he listens. Children need to see direct cause-effect relations that are the products of the quality of listening they do.

For example, can the child see that he is missing out on listening fun, beauty, and joy? ("That makes my ears happy!" said one kindergartner.) Can the child see that when he garbled the directions, the game was spoiled? Can the child see that friendships bloom during empathetic listening and shrivel during one-sided communication? Can he see that the smooth-voiced TV announcer talked him into spending all his hard-

earned allowance on a stupid, flimsy toy when a little critical listening could have saved him this disappointment? These are the real-life evaluations that the constructors of paper-pencil tests find it hard to simulate.

If the child sees his problems in listening as his *own* challenges and problems to be overcome creatively, then much of the struggle is won. When the child sees the paper-pencil test as giving him information that helps to solve his problem, learning is enhanced. It is doubtful that this autonomous, creative problem-solving emphasis can be activated by the published directions in the manual. Long term development of this crucial learning set rests with the teacher and her instructional materials, some of which are referred to in the next chapter.

A final thought on research in testing listening: Is scientism in operation when researchers ask questions about listening? There has not been great progress in the listening area. Great progress appears to come from a rethinking of basics, not from refinements. A sound theory of the total or large listening-communicating process probably cannot be gotten by looking at some limited part of it. Straight line models of communication are not adequate. They run something like this: A ( ) B = X, in which a communicator, "A," "communicates" something in some manner via some channel, ( ), to a receiver, "B," with the result or consequence, "X." There are sophisticated refinements of this model, but it is still a narrow conception which may be holding back progress (Thayer, 1968).

For example, listening to *I love you* brings a reaction not nearly so dependent upon how it is said, but *when*. Success or failure of intercommunication depends not upon knowledge content, but upon the changing state of the relationship between the people involved. Crucial variables are often in the surrounding conditions of an encounter—conditions coming out of a complex and unpredictable sequence of happenings, irreversible, not fully controllable. There is a continuum of outcomes:

inevitable	possible	serendipitous	essentially impossible

Presumably the last two, being unique and unreplicable, are

"not-get-at-able" in terms of cause and effect or probability. But the important variable may not be certainty, but the very uncertainty or unpredictable variability. Thus the question, Is science, as it is currently practiced, appropriate to any or all of the most important questions about listening?

At present the state-of-the-art in the measurement of listening seems to be best described by these terms: relatively scarce, reasonably reliable, but often confused; lacking in imagination, but becoming more widespread, with a greater range; and attracting increasing interest. And by no means does this report contain all there is or all there will be about evaluating listening.

Chapter Five

MATERIALS AND TEACHING TECHNIQUES

This chapter combines two purposes: (1) it reviews selected, published and unpublished materials designed for various types of instruction, goals, and populations starting with the young child; and (2) it presents studies and ideas on various teaching techniques. Many other ideas from the literature are incorporated into a listing of roles for the school, the teacher, and for the child.

The materials available range from relatively isolated recordings to some beginning attempts in careful product development which contains efforts to create hierarchical sequences and carry through product testing and revision more than once. As standards emerge and are used by school people for educational products, the quality of materials available will improve. (See Tyler, 1971.) As technological know-how for product "engineering" becomes valued, materials will improve the service and information offered to users. An example of this thrust is taking place in the Southwest Regional Educational Laboratory in Inglewood, California.

The specific plan of this chapter is to mention: (1) a large, USOE multi-level study and multi-level published materials; (2) then to mention studies about some representative materials and techniques at the beginning grades, the middle grades, high school, and college; (3) some of the literature about aspects of media and hardware in general; (4) a synthesis of ideas in a list format for the roles of the school, the teacher, and the pupil; (5) and (briefly) some of the needed research not mentioned earlier.

Items on materials and techniques that appeared in the NCTE/ERIC Annotated Bibliography on Listening are not repeated (Lundsteen, 1969c). The Listening Bibliography by Duker included almost 300 annotated entries under teaching of listening, about 143 on techniques or procedures, and 32 on materials (Duker, 1968). For activities that are interre-

lated with creative problem solving, see Lundsteen (1968; 1970; forthcoming). The excellent Russell and Russell collection on activities and materials has already been mentioned (1959).

Historically, after the round of studies dealing with the amount of time spent in listening, came a round of research studies which is still in progress. These were designed to give evidence that planned instruction results in improved listening abilities. One researcher states that although there have been apparently successful attempts to teach certain kinds of listening behavior, in view of the uncertainty about what listening tests measure, it is difficult to decide exactly what kinds of competencies or performances are being improved in these experiments. Since basic linguistic competence in grammar and in vocabulary is probably susceptible to improvement only over long periods of time and with much effort, it is probable that teaching listening is mainly a matter of training that leads the child to pay more attention to what he hears and to organize meanings for better retention, comparison, and inference (Carroll, 1968).

Multi-Level Projects and Materials

Programs in Oral Communication, Title III, Listening for Better Learning

According to reports from a Title III (ESEA 89-10) project, materials have been produced for grades 2, 5, 8, and 11. The project produced a total tape curriculum package with four listening pre- and posttests (testing eleven listening comprehension skills) and ninety-six training lessons for listening comprehension, twenty-six for auditory perception, career interviews, and compressed-expanded speech, as well as teacher manuals and student booklets. Involved were 6000 students and 140 teachers. (Alameda County School Department, Hayward, California)

EDL Listen and Read; Listen and Think

For the program *Listen and Read*, graded instructional materials are available for intermediate, junior high, and senior high levels. Taped lessons are self-contained and auto-instructional. The narrator introduces a skill and gives illustrations.

The student is directed to workbook exercises. The tape narrator gives correct responses. The main emphasis is on reading with listening to instructions.

Listen and Think (1957) extends from beginning through twelfth reading level. There are fifteen tape recordings, one skill to each tape, with accompanying student book. There are sections in the student book to be read. There are some key words defined pictorially and some dictionary-type definitions. The skills are classified: (1) analytical, (2) interpretive, (3) appreciative, and (4) critical. Total time for the recording and exercise ranges from thirty to forty-five minutes. As a portion of the lesson there is a quite moderate (in this writer's opinion) increase in speed (as levels advance) called "speeded listening." The child is informed as to the skill to be practiced. The lesson concludes with a short summary of what was learned. Progress is charted and graphed. The teacher's handbook suggests follow-up activities for each lesson and suggestions for transfer to other subject areas. EDL has furnished reports of investigations with their materials. The materials give practice on a wide range of thinking skills. Later tapes depend on earlier tapes for proper skill development. Students, for whom headsets are recommended, may need to listen more than once.

New materials for the elementary school from SRA were described in the last chapter on testing. The thinking skills are not as sophisticated as for the whole range of the EDL *Listen and Think* materials.

Beginning Levels

Reading Improvement through Auditory Perceptual Training, Title III

Another project was funded July 1970 in Alameda County, California, relevant to listening. The project, Reading Improvement through Auditory Perceptual Training, is designed to produce and field test a series of self-contained packages of tape-recorded lessons, student manuals, and teacher manuals in auditory perception. The program is designed to improve the reading achievement of elementary school children reading below the mean for their chronological age. The materials include diagnostic tests, sequenced instructional materials for students, and pre- and posttests for project evaluation. The per-

ceptual training lessons will include identification and discrimination of musical and speech sounds, short- and long-term memory tasks, sequencing, use of competing messages, closure tasks, auditory synthesis, analysis, temporal sequencing, and auditory pacing by means of compressed speech. By the end of three years, materials will be produced for use at second and at fourth grade levels. Materials can be used in grades higher or lower, depending upon individual reading ability.

At present materials are being pilot tested with children from both regular and remedial reading classes. Materials are to be adapted for use with children whose reading difficulties derive from bilingualism and dialect differences. The following tests have been administered individually to 300 children: Peabody Picture Vocabulary, Digit Span (WISC), Northwestern Syntax Screening Test, Auditory and Sound Blending (Illinois Test of Psycholinguistic Abilities), Anderson-Metraux Test for Auditory Memory Span, Van Riper Synthesis and Analysis Test, Gilmore Oral Reading Test, Boston Speech-Sound Discrimination Test, Visual-Aural Digit Span Test by Koppitz, and one group-administered test—Competing Messages, an auditory screening test by Hedrick and Manning (described in the preceding chapter). Data from this project should make it possible to determine precisely what kinds of auditory perceptual training are needed for children with different learning and developmental characteristics.

Alameda County has been most active in this area for a long time. A set of lessons from this district by Mary L. Smith (1962) for listening habits and speech sound discrimination developed through a multiple sensory approach can be found in her monograph by the same name, available from the ERIC Document Reproduction Service (ED 001 697: MF—$0.65 HC—$3.29).

Sound, Order, Sense, Follett Educational Corporation, 1970

Sound, Order, Sense (SOS) is a two-year program in auditory perception that teaches the interrelationships between sounds that make up speech, the sequence of sounds in words and words in groups, and the attributes that give meaning to words. Level one is used in first grade, level two only after level one has been completed, or for older children who have auditory perceptual difficulties. Materials can be used with an

entire class, in groups, or individually. Suggested time is approximately twenty minutes per day. There is a teacher's guide, pupil-response book with invisible ink for immediate feedback, and simple shapes and designs instead of culturally biased and distracting pictures. There are 160 activity cards, follow-up suggestions for the teacher, and eleven records in all. One record in each level is of environmental sounds. Records are used with the "sound" tasks in the Pupil Response Books every fifth day to provide background noise against which the children listen to sentences repeated by the teacher. Other recordings provide practice for discriminating sequence, fast and slow, loud and soft, one and more than one sound, near and far, long and short, and up and down. Recordings use speech, music, environmental sounds or a combination. Besides this developmental program, a remedial program (simply with extra practice) is in preparation. The teacher's guide has four well-written informative chapters on listening before the page by page directions. No information is given at this point on tryouts.

Auditory Perception Training, Developmental Learning Materials (APT), Chicago

This series can be used with students having minimal brain dysfunction, those having auditory perception deficits, and those in a developmental readiness program in school. It can be used with small groups or total classes. The program has five areas with three levels in each: (1) Auditory Memory (following directions), (2) Auditory Imagery (visualizing and selecting a picture described), (3) Auditory Figure-Ground (following one of two competing messages), (4) Auditory Motor (drawing lines when given directions), and (5) Auditory Discrimination (marking a picture that goes with a nonverbal or verbal sound). There are student mimeo worksheets, teacher's editions and tape cassettes. A chart is given telling what concepts as well as materials are prerequisite to a lesson. Examples are color recognition (red, yellow); directional awareness (around, on, above); and shape and figure recognition (canoe, cupcakes, mask, tandem, umbrella, square). No tryout data were sent. With respect to the Auditory Figure-Ground subtests, the material may not be varied sufficiently or controlled regarding signal to distraction ratio, i.e., does the dis-

traction really interfere? Also, fifteen seconds response time appears a bit long.

UCLA Head Start Evaluation and Research Center

Studies relevant to listening have come from the UCLA Head Start Evaluation and Research Center (one of five USOE centers) in Los Angeles. As for techniques, Gupta and Stern presented a paper (1969) discussing the comparative effectiveness of speaking versus just listening in improving the spoken language of disadvantaged young children. Speaking appeared better than just listening. As for materials, in a paper entitled "Children's Auditory Discrimination Inventory (CADI)" (June 1969) there is a review of the ways assessment instruments differ. Included is a review of the Wepman Auditory Discrimination Test (mentioned in the last chapter) and others, plus the advantages of their CADI.

Trade Books

Trade books make a delightful source of material for listening instruction. A recent example is the book *Sounds Are High, Sounds Are Low* which can be read by the primary child, and is beautifully illustrated (Holt, 1969). Others are: *Do You Hear What I Hear?*, an imaginative book on sounds (Abelard-Schuman, 1969); *The Loudest Noise in the World,* a small boy finds out about the loudest noise (Viking, 1954); and Alister Reid's *Ounce, Dice, Trice* (Little, Brown, 1955) with its amusing play with sound ("a humbuggle of packages").

Middle Grades

Here are a few current examples of techniques and materials for the middle grades. Houston created a program for a fourth-grade group of culturally deprived children (1964). This study contains suggestions for the teacher on direction giving, questioning, give and take in conversation, and understanding nonverbal ways of communicating.

With regard to the international scene, there is a study in Sweden of 550 pupils ten, eleven, and twelve years old designed to interrelate listening, reading, speaking, and writing. Among materials there are tape cassettes and booklets (Göran Strömqvist, Director; Teachers College, Övre Husargatan 34; 413 14 Göteborg, Sweden).

The listening materials and program for the Thinking Improvement Project designed for about fifth-grade level have been cited earlier (Lundsteen, 1969 a, b, forthcoming) and a few sample lessons are given in the Appendix. The problem-solving program that gave much of the learning set needed in the listening program has also been described (Lundsteen, 1970a).

A study at sixth-grade level investigated the ability of pupils to use certain verbal context clues in listening and in reading (the skill Brown suggested as the single best predicting skill in general listening). This study gives the teaching implication that boys of low reading level do better when using a listening mode for certain context clues (which were constructed out of definitions or descriptions) (Chang, 1968). For assurance of success, instruction might begin with this listening skill, move to reading, and then to other types of clues.

Tapp gave a description of a lesson illustrating that fairly young children can understand rumor. It is a lesson illustrating the distortion which occurs when a description of a picture is related from one child to another (Tapp, 1953).

Another study at fourth, fifth, and sixth grade levels used four different techniques to teach listening: (1) summary (at intervals children were asked to pause three seconds and summarize to themselves); (2) analogies (the group listened to the stem of an oral analogy and then completed the analogy from a selection of four words on an answer sheet—plus listening to a series of five words); (3) vocabulary (the group listened to thirty-word paragraphs and then defined an unknown word from contextual clues—not differentiated as to types); (4) story method (groups listened to an original story and answered true-false questions). Results were measured by an author-made test. After eight weeks, the second method appeared to be the best, but the study should be redesigned somewhat and replicated (Edgar, 1961).

One teaching technique which is appropriate to all grade levels involves creative dramatics whereby both affective and cognitive thinking skills associated with listening might be developed. One of the recent NCTE/ERIC monographs is on this topic (Hoetker, 1969). There are many treatments on dramatization; for example, Stewig has written in an interesting manner on language growth through creative dramatics

(1970) and has a book in preparation. (See Bednarz, 1971; and Kirkton, 1971.)

High School Level

A report, early but still applicable, gave a detailed unit containing criteria for the evaluation of news broadcasts on television and radio (Bloom, 1954). Boston University has produced a whole series of studies of critical listening mainly at the high school level. One of the latest evaluated a series of fourteen recorded lessons designed to make tenth-grade pupils aware of eight propaganda techniques presented during a three-week course. Other studies in this series, including the pioneer work by Devine, have been reviewed elsewhere (Lundsteen, 1969a). The studies are full of ideas for materials and practical procedures (Devine 1967, 1968).

One of the most complete descriptions of a classroom program is by Brown (1954) and has ideas applicable to almost any grade level. He calls it, "a feasible course of instruction in English which accords auding an attention commensurate with its importance." Brown suggests that first the teacher of English shares with other teachers a major responsibility suggested by terms such as *personal adjustment, character development,* and *self-actualization.* Second, the teacher has responsibilities defined by the meaning of the word *English.* The major choice in interpreting the word *English* lies between its designation of the language we speak (linguistic needs of the pupils) and its meaning in such a statement as "I never liked English in school" (an established content, sanctioned by tradition). His point of view is that the task of the English teacher begins and ends with the highest possible development of skill in the native tongue—in listening, speaking, reading, and writing. Other possible English contents are justifiable only in that they help to fulfill that special task.

Next Brown outlines, for example, procedures for making initial interest and ability inventories, identification, and permanent seating placement of those with known hearing loss, identification of superior listeners, individual and small-group listening conferences, daily exercises, weekly tests, a system of simplified phonemic notation, and individual vocabulary sheets. (Also see Bursuk, 1971, on listening versus reading presentation for improvement of retarded readers.)

College

Duker lists forty-nine studies at the college level most of which are associated with beginning communications programs or with the effect of rhetorical devices on listeners, including an interesting project to develop programmed materials in listening to public speaking in a beginning course. The goal of this linear program was the identification within contemporary speech samples of the central ideas of speech, main divisions, pattern of organization and supporting materials, motive appeals and characteristics of language (Erway, 1967). Listening consists of preparation for listening, the listening process itself, and the post-listening period, which should emphasize immediate recall to aid retention. (See also Duker, 1970, for an evaluation of five recently developed programs used in business and industry.)

Hardware for Teaching, Media in General

Television, video tape cassettes, listening centers, language masters, even office intercoms are being used as hardware to serve the purposes and techniques of teaching listening.

Television was mentioned at the beginning of this monograph as affecting listening. The solution is hardly to turn it off, but to turn its enchantment to teaching purposes (Kirshner, 1969). Programs such as "Wild Kingdom," "Discovery," some family specials, the "Undersea World" of Jacques Cousteau, and "CBS Children's Film Festival" will probably not only be listed in *Teacher's Guide to Television* (P.O. Box 564; Lenox Hill Station; New York, N.Y. 10021) but also eventually be available on video tape cassettes to be dropped into the classroom apparatus and provide intriguing yet guided learning.

There are usually a few articles each year on listening centers with tape recorders, ear phones, occasionally even cubicles —possibly a coordinated filmstrip and tape device (See Bernthal, 1967; Gotkin and Fendiller, 1965). Using tapes children can concentrate on "school language" as distinguished possibly from their own. Original material can be created and taped by the children, sometimes by older children for younger children. (Also see Orange County, 1966.)

A few districts have Dial-A-Tape systems (Reuter, 1969). School District #12, Adams County, Colorado, has been par-

ticipating in a Title III project, "To Teach—To Listen—To Learn," with a central collection of over 2500 audio tapes (representing every discipline) transmitted over existing telephone lines and called by the flick of a dial. They feel it is the next best thing to a tutor.

One school even appropriated the principal's intercom and used it for giving listening lessons. Children in the first grade responded to their names being called and to specific directions (McKee, 1967).

What Are the Roles of the School, the Teacher, and the Pupil? A Synthesis

After looking at some reasons for bothering (chapter one), a framework for the listening act (chapter two), various possible skills and vocabulary of the area (chapter three), ways of assessing (chapter four), and a sampling of materials and techniques (the present chapter), the need for a synthesis becomes apparent. One way is to list ideas for roles of the school, teacher, and pupil that grow out of this literature and out of common sense. This compendium of roles invites additions, revisions, and possible deletions. Many of these overlap and are shared responsibilities.

*The Role of the School, Its Administrator, and Its Consultants**

1. To view the development of all of the verbal skills—listening, speaking, reading and writing—and their integration with one another and with thinking as the major responsibility of the elementary school.
2. To make provisions for instruction which is systematic and developmental (as well as incidental), i.e., a total school continuum of which all staff is aware.
3. To make available specific inservice training which focuses on felt needs both for the new teachers, who always need help, and for experienced teachers, who missed learning about listening or need stimulation if only to reject the shallow comfort of routine. To provide released time for this.
4. To provide for parent education as well as teacher educa-

*The author wishes to express appreciation to Dr. Charles F. Kenney, District Superintendent, Santa Ana, California, Unified and Junior College Districts for reacting to this section.

tion—brochures, meetings, classroom visits—designed to instruct as to the philosophy and goals of the language program (which is so thoroughly understood and accepted by the staff that it can be communicated to laymen).

5. With knowledge of staff feelings, to provide astute decision making, an appropriate combination of directives, principal-faculty discussion, and faculty decisions about the language program.
6. To provide and coordinate a program which maintains what is useful in the old, selects what is valuable from the new, and actively incorporates this information by using sources such as some of those given in this monograph.
7. To furnish the materials, hardware, and setting for a stimulating and varied listening environment.
8. To provide for individual differences in listening.
9. To help children use their own language, whatever it is to begin with, as an effective tool.
10. To support the fulfillment of the teacher and pupil roles.
11. To provide a feedback mechanism to others concerning successes and failures of the program.

The Role of the Teacher

1. To diagnose the vital interests and linguistic needs and abilities of the children by tests and by whatever means are available and appropriate.
2. To consult sources such as the cumulative health record for evidence of deficient hearing and vision, or arrange for tests when information is not available.
3. To provide a suitable atmosphere for listening, later delegating this function to a student committee.
   a. To adjust seating to the best visual or acoustical advantage of handicapped pupils.
   b. To keep a check on proper temperature.
   c. To maintain a quiet, relaxed atmosphere, or the atmosphere needed for the particular situation.
   d. To utilize space so as to minimize elements or activities in the classroom which are in themselves attention demanding and which tend to distract the listener from the speaker as the focus of attention (e.g., to watch seating arrangements, storage of materials, work areas, functional areas of interest).

e. To give attention to acoustics in terms of time scheduling and attention to distracting noises, seating arrangements and position of the speaker in relation to the listeners.
f. To attend to adequate ventilation of the room.

4. To outline a tentative program for the year and to plan a detailed program for the first few weeks.
5. To decide to what extent the pupils make decisions as to the selection of objectives, the range or scope, the approach, the activities, and the evaluative procedures.
6. To guide children to effective listening by helping them understand why they listen and how they are to listen, and that *understanding why* grows out of the need for an activity and *understanding how* depends on the purpose of the activity.
7. To sense and utilize the interrelationships of the language arts in various communication activities (e.g., the teacher realizes that spelling may relate to exactness in expression, rather than just getting the word right, and the committee report may relate to clear organization of ideas, rather than just a list of products).
8. To be aware of different levels of listening (see the skills list given in chapter three), but to know that children of any one age differ widely in their listening abilities and that different types of listening are appropriate to different occasions.
9. To see to it (with the help of the class committees) that a wide variety of listening situations occurs in any one month.
10. To see that a wide variety of materials for the listening program is obtained in advance of group or individual activities. (Construct a comprehensive checklist.)
11. To be aware of social interaction between speaker and listener—aware that good listeners inspire a speaker to better communication.
    a. To be aware of social courtesies.
    b. To set a good example.
    c. To help children feel responsibility in the listening situation.
12. To be certain that he (the teacher) is understood when speaking; to watch faces for evidence of pleasure, satis-

faction, disagreement, confusion.

13. To continually appraise the listening limitations of the children in the class (e.g., physical, emotional, intellectual factors, attention span; difficulty of material presented; its rate).
14. To avoid purposeless listening experiences since these can be a cause of behavior problems and careless habits when children "close their ears" and become bored.
15. To avoid too much input without the child having an opportunity to respond (a cause of passive listening).
16. To avoid input at an inappropriate level of difficulty (another cause of passive listening or even tuning out).
17. To realize that inattentiveness of children may be caused by lack of motivation.
18. If not able to lengthen the child's span of attention, then to help him train himself to get his mind back to the subject at hand more quickly.
19. To enlist the help and understanding of parents.
20. To provide readiness for specific activities.
    a. To discuss definite purposes for the activity in order to focus and direct attention, i.e., look for a surprise, action, sequence, humor, main ideas, two sides of an argument.
    b. To introduce special vocabulary that will be used.
21. To provide, when appropriate, for interaction between the speaker and the group.
22. To encourage active attempts to understand, to clear up ambiguities, to encourage the pupils to react.
23. To see (when practical) that action and interpretation follow listening.
24. To provide for a follow-up, retesting or assessment.
    a. To provide for objective evaluation and reinforcement.
    b. To provide time for further questions, discussion, reports, digests, summaries, outlines, judgments of accuracy.
25. To realize that listening need not always be intense, analytical, or critical, but may be used as a "change of pace," a chance for relaxation or pleasure, as well as a way of getting information.
26. To keep much of classroom listening a pleasurable rather than a threatening experience—motivated not demanded.
27. To realize that a child's forgetting may be a way of avoid-

ing situations that are threatening psychologically.

28. To encourage children to formulate various standards of good listening, beginning at the group's level of competence, including responsibilities of both speaker and listener.
29. To accumulate a file of information on each pupil.
30. To discover and develop candidates for positions of group leadership of committees from which the group may select chairmen of listening, speaking, reading, and writing committees.
    a. To effect a gradual transfer of authority and responsibility to these leaders.
    b. To instill in these leaders (through example and instruction) a concept of leadership that promotes cooperation and intelligent, considerate self-direction.
    c. To reduce and distribute clerical and disciplinary functions so as to free himself for the tasks of instruction, consultation, and guidance.
31. To make a final evaluation and attempt to make a follow-up evaluation of the program the following year.
32. To ask himself the following questions: (Many of these are questions that the investigator should have asked while teaching and didn't.)
    a. What kinds of listening do I do myself?
    b. Do I talk too much in school or do I listen more than I talk? (Observe frequencies.)
    c. Do I encourage the children to speak more than a single word or thought in response to a question?
    d. Do I watch that my choice of words does not present an impossible hurdle to the child?
    e. But do I also use words on occasion that stretch listening and do I then encourage the child to demand and get meaning? (Develop a log or card system for pupils to keep.)
    f. Are my questions so thought-provoking that my question time is less than pupil answer time?
    g. Do children in my class follow each other spontaneously and independently without directing each comment to me, and do they react to peers as well as to adults? (Analyze changes in technique and impact according to taped sequences.)

h. When I give oral directions, do I prepare the pupils for what is to come and then avoid repetition? Are the directions worth hearing?
i. Are my directions ambiguous? (When children fail to follow directions, it may be to avoid an ambiguous situation.)
j. Is the purpose of each activity understood by each child? (Lack of pupil comprehension may result from lack of teacher's defined purpose.)
k. Do I relate good listening habits to all classroom activities and is the classroom environment favorable?
l. Do I give the poor reader but good listener an opportunity to excel through the testing of material presented only orally?
m. Do I enhance the child's comprehension by providing organization of the spoken material (e.g., a preview, opportunity for pupils to relate their own past experience to the materials, purposes)?
n. Whenever possible do I take time to be a "listening teacher," empathetic, ready to simply lean forward and say, "tell me . . ."? Do I give my full attention and expect the child to begin speaking, then show constant interest, or do I reflect feeling back in the same manner as a clear mirror does? (Develop a conference timetable.)
o. Do I scold a pupil and then expect him to listen on a high level (when his opinion of himself is now so low)?

(For an interesting study of effectiveness of communication among third-grade pupils used as tutors, teachers, teacher aides, see Stiggins and others, 1971.)

The Role of the Pupils

Some of these suggestions are clearly for older pupils, but almost all of them can be handled well in some form by children in the primary grades. Autonomy gives them a sense of commitment to their schooling. Maybe McLuhan is right that today's children need a role before a goal.

1. To learn to use the listening environment more effectively.
   a. To know optimal physical listening conditions.
   b. To discover, verify, experiment with, and do research

on their listening and hearing.

c. To learn to do something about what they hear.
   (1) To be aware of different levels of listening and noise.
   (2) To be aware of different purposes of listening.
   (3) To formulate standards of good listening in various situations.
   (4) To improve their understanding of the listening process.
   (5) To learn to fix and keep attention on what they wish to hear.
   (6) To learn what other children will listen to.
   (7) To learn to locate and use listening material.
   (8) To learn to ask questions when in doubt of meaning.
   (9) To share with the sender responsibility for communication.
   (10) To learn to use listening time wisely, to be selective, for example, in TV viewing.
   (11) To be responsible for self-evaluation of listening, understandings, abilities, skills, appreciations.
   (12) To exploit (to their advantage) the rate differential between thought and speech.

d. To learn to solve personal problems which he (the child) is encountering now and will encounter in the future, partly through understanding how the listening process of "meeting of minds" can help.

2. To develop a sense of responsibility and concern for communication in the local community.
   a. To realize the importance of listening.
   b. To understand the relationship of listening to economic competency.
3. To begin to understand something of his cultural heritage in communication and its relationship to the present and future.
4. To help plan, revise, and administer the program.
5. To help select, gather, and distribute supplies and materials.
6. To help identify those pupils in need of special help and those able to provide that help.
7. To help lead discussion, conduct interviews, tutor, and

counsel.

8. To help develop and maintain a high level of morale, rapport, and control.
9. To help receive, consider, and act upon suggestions and complaints.
10. To help in selecting, constructing, administering, scoring, and evaluating pupil-formulated tests or other means of self-assessment.
11. To help evaluate performance and progress (because keeping track of success has motivational value).
12. Generally, to help make decisions in regard to the "what" (materials, activities), the "why" (objectives), the "how" (procedures), the "when" (setting up the schedules), the "who" (people on what committees), and the "where" (in the neighboring classroom, library, auditorium), and the "how well" (evaluative procedures).

Research Still Needed

In the Duker annotated bibliography there are at least eighteen entries dealing with the topic of needed research. Suggestions have been made throughout this monograph; many more are probably apparent now to the reader. A few more areas which might be studied are: (1) the personality adjustment dimension of listening which only about three research studies appear to emphasize, (2) utilization of compressed (and expanded) speech, (3) growth patterns, (4) skills—how to teach them and with what material, and (5) listening vocabulary (such as in the excellent, but early, 1951 study by Weir, in Duker 1968).

Existing studies might be replicated and future studies devised with more careful criteria, such as reports in detail of how the teacher is actually behaving, how the pupil is actually behaving, and what the interaction is. Evidence to verify these behaviors might be, for example, from video tape, observation scales administered by trained personnel including both verbal and nonverbal behaviors, or stenographic records. Collection of such evidence and placement in a data bank would allow investigators to use the data for purposes other than those originally intended (according to recent recommendations by the Cooperative Research Committee of the National Conference on Research in English, NCRE).

Conclusion

Some say the owl is wise
Because he keeps so quiet.
Could most of us fare better
On an expert listening diet?

What goes along with an "expert listening diet"? These chapters have made many suggestions, along with pointing out the impact that listening has on reading and the other language arts. But perhaps one point still needs stressing. The idea is related to a saying from Emerson, "Be not too much a teacher." Sometimes there is grim determination to "make the children listen." On the one hand conscientious educators realize that our world is ruled in part by those at the conference table capable of skillful thought and expression derived in large part by skillful listening. The conscientious educator may envision, concomitantly, rapid change in new curricula with concepts of the possible in multimedia, new educational technology, accountability, and instruction in listening playing a key part. But on the other hand, the conscientious educator senses dangers in this technology for a curriculum stressing skill in listening. These are dangers of ignoring fatigue, personal problems, emotional interference, the child's need for rebuttal and interaction with peers in a casual manner. Finally, the central idea is not to let the child get lost personally. For whether he is an apple polisher or a car washer, each child is crying in his own private wilderness, "Here I am, care about me, listen to me."

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*Items marked with an asterisk are available through the ERIC Document Reproduction Service. Consult appropriate volumes of *Research in Education* for further information.

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Reviews the development of language competence and performance skills beyond the years of primary language acquisition, i.e., from about first grade on. A part focuses upon dimensions of individual differences as might be found in listening. Shows that development is by no means complete upon school entry, although the normal child has substantial competence in the rules of his native language. Points out gaps in knowledge. Included in the book, *The Learning of Language*, edited by Carroll Reed, published by Appleton-Century-Crofts for the National Council of Teachers of English (forthcoming). Other chapters reflect the present ferment and growth in the study of language learning.

Carver, M.E. "Listening versus Reading," in *The Psychology of Radio*, edited by H. Cantril and G.W. Allport. New York: Harper, 1935, pp. 159-80.

*Cazden, C.B. "Subcultural Differences in Child Language: An Interdisciplinary Review," *Merrill-Palmer Quarterly of Behavior and Development*, 12 (1966): 185-219. (ERIC Document 011 325)

*Chang, Y.C.C. "The Ability of Sixth Grade Pupils to Use Certain Verbal Context Clues in Listening and Reading." Unpublished Ph.D. dissertation, University of Minnesota, 1968. (ERIC Document 040 998)

Cooper, R.L. "The Ability of Deaf and Hearing Children to Apply Morphological Rules." Unpublished Ph.D. dissertation, Columbia University, 1965.

Presents evidence based on test adapted from Berko of the importance of accessibility of spoken language in language development ages seven to nineteen. The average scores of nineteen-year-old deaf children were below the average scores of ten-year-olds that could hear, for example, in applying derivational suffixes (boy-ish).

Devine, T.G. "Listening," *Review of Educational Research*, 37 (April 1967): 153-58.

Reviews research on teaching of listening, factors affecting reading and listening, other correlational studies, and measures of listening.

Devine, T.G. "Reading and Listening: New Research Findings," *Elementary English*, 45 (March 1968): 346-48.

Re-examines the belief that instruction in listening (or reading) affects pupil competence in reading (or listening).

Duker, S. *Listening: Readings*. Metuchen, N.J.: Scarecrow Press, 1966. (New volume, *Listening: Readings II*, 1971.)

Duker, S. *Listening Bibliography*. Second Edition. Metuchen, N.J.: Scarecrow Press, 1968. 316p.

Represents an updating of the 1964 annotated bibliography. 1332 references are listed. An invaluable service.

*Duker, S. "Listening," in *Encyclopedia of Educational Research*, 4th ed., edited by R.L. Ebel. New York: Macmillan, 1969, pp. 747-52. (ERIC Document 029 896)

Reviews the extent of listening, scope of the literature, relationships to listening, teaching of listening, measurement of listening, and rapid listening to compressed or speeded speech.

Duker, S. "Teaching Listening: Recently Developed Programs and Materials," *Training and Development Journal*, (May 1970): 11-14.

Surveys the importance of available resources at the adult level.

Durrell, D.D., and Helen A. Murphy. "The Auditory Discrimination Factor in Reading Readiness and Reading Disability," *Education*, 73 (1953): 556-60.

Durrell and Murphy suggested from their findings that intensive instruction in auditory perception removes most if not all of the advantage that girls appear to have over boys in first grade reading success. Results from Kellogg's (1966) study suggest the same. Auditory discrimination and ability to listen to discourse are areas that contribute to reading success.

Edfeldt, A.W. *Silent Speech and Silent Reading*. Chicago: University of Chicago Press, 1960.

Edgar, K.F. "The Validation of Four Methods of Improving Listening Ability." Unpublished Ph.D. dissertation, University of Pittsburgh, 1961. *Dissertation Abstracts*, 22 (1961): 1084.

Educational Testing Service. "Listening Levels 1, 2, 3, 4," in *Sequential Tests of Educational Progress* (1957); and "Listening," in *Cooperative Primary Tests* (1967). Princeton, N.J.: Educational Testing Service, Cooperative Test Division.

Consists of two alternate forms for primary grades through college, assumed sub-abilities: plain-sense comprehension, interpretation, evaluation, and application. Graded tests increase in vocabulary difficulty, grammatical complexity, complexity of subject matter and reasoning abilities.

Erway, Ella Anderson. "The Development of Programed Materials for Teaching Cognitive Listening Skills in a Speech Laboratory in the Beginning Speech Course at Hunter College." Unpublished Ph.D. dissertation, Columbia University, 1966. In "Abstracts of Dissertations in the Field of Speech," M. Nelson, ed., *Speech Monographs*, 34 (August 1967): 316.

The purpose of the project was to develop programed materials in listening to public speaking for the beginning course. The behavioral

goal of the linear program was the identification within contemporary speech samples of the central idea of the speech, the main divisions, the pattern of organization, the supporting material, motive appeals, and characteristics of language.

Farrell, Muriel, and Shirley H. Flint. "Are They Listening?" *Childhood Education,* 43 (May 1967): 528-29.

Suggests the distinct need for listening with a purpose. Every activity which includes environmental sound provides an opportunity for listening-learning experiences. Several musical games are described to teach discrimination between pitches, timbre, and quality of tone, to recognize tempo or speech changes, and to identify likeness or difference in rhythm and duration.

*Flavel, J.H., and others. *The Development of Role-Taking and Communication Skills in Children.* New York: Wiley, 1968. (ERIC Document 027 082)

Deals with the application of conceptual abilities to social-interpersonal as opposed to nonsocial, physical tasks. Shows how the child makes use of information about his receiver (role-taking) in devising and transmitting effective messages to others (communicating). Not only investigates a dimension neglected by Piaget, but also seeks to find ways to assist development.

Frase, L.T. "Boundary Conditions for Mathemagenic Behaviors," *Review of Educational Research,* 40 (June 1970): 337-47.

Reviews research on various orienting directions, e.g., use of questions, which get the reader to respond to certain aspects of a text. Examines position in text, closeness of the question to text, and type of question. Suggestions for needed study are relevant to spoken material.

French, J.W. "The Description of Aptitude and Achievement Tests in Terms of Rotated Factors," *Psychometric Monograph No. 5.* Chicago: University of Chicago Press, 1951.

Friedman, H.L., and R.L. Johnson. "Compressed Speech Correlates of Listening Ability," *Journal of Communication,* 18 (September 1968): 207-18.

Whole issue devoted to compressed speech includes bibliography of dissertations and master's theses. This research investigated what factors might distinguish comprehension of speeded and unspeeded speech.

Gall, M.D. "The Use of Questions in Teaching," *Review of Educational Research,* 40 (December 1970): 707-21.

Gives a comprehensive review of classifications regarding type of question, teacher practices, student behavior, and programs designed to change teacher's questioning behavior. Implications for the listening program may be drawn. One section deplores the fact that there is

little research on pupil questions, possibly because classrooms do not encourage pupils to ask them.

*Gephart, W.J. *Application of the Convergence Technique to Basic Studies of the Reading Process.* USOE Final Report. Project No. 8-0737. Bloomington, Indiana: Phi Delta Kappa, 1970. (ERIC Document 037 587)

Contains an Appendix B devoted to definition of the reading process. The second chapter of this monograph draws heavily on the techniques used in this appendix and is intended to complement this earlier work on reading. The appendix also includes a flow chart of Kenneth Goodman's model of reading, an inspiration to the model of listening presented in this monograph.

Goldstein, H. "Reading and Listening Comprehension at Various Controlled Rates," *Contributions to Education,* No. 821. New York: Bureau of Publications, Teachers College, Columbia University, 1940.

An early, classic and elegantly done study comparing reading and listening as a function of rate of presentation. Used seven rates of presentation, the highest of which was 322 words per minute. One of the first studies to suggest that generally people could well listen at a faster rate than they do and not lose much in the way of comprehension.

*Goodman, K.S., and Olive S. Niles. *Reading: Process and Program.* Champaign, Ill.: NCTE, 1970. (ERIC Document 045 664)

Goodman presents a framework concerning comprehension, the only genuine objective of reading, and the reading process of multiple behaviors. The present model on listening behavior draws heavily on the original flow chart constructed at a USOE meeting referred to in the Gephart reference.

Gotkin, L.G., and Fay Fendiller. "Listening Centers in the Kindergarten," *Audiovisual Instruction,* 10 (January 1965): 24-26.

Advocates a classroom listening center with tape recorders to enable disadvantaged children to hear "school language" as distinguished from their own. Lays stress on minimal distraction in the center.

Guilford, J.P. *The Nature of Human Intelligence.* New York: McGraw-Hill, 1967.

The most elaborate concept of the nature of intelligence now available. Describes more than 100 separate aspects of cognitive ability by a sort of "periodic table" of these factors. Each represents a particular combination of certain types of mental "operation," "content," and "product." Attempts to identify the process in the successful performance of mental tasks.

*Gupta, Willa, and Carolyn Stern. "Comparative Effectiveness of Speak-

ing vs. Listening in Improving Spoken Language of Disadvantaged Young Children," *The Journal of Experimental Education,* 38 (Fall 1969): 54-57. (ERIC Document 029 689)

Harris, T.L. "Reading," in *Encyclopedia of Educational Research,* edited by R.L. Ebel. New York: Macmillan, 1969.

See section on physiological aspects (p. 1083) for discussion of auditory acuity, discrimination, memory, silent speech and reading.

Hayakawa, S.I. "Who Is Bringing Up Your Children?" *ETC. A Review of General Semantics,* 25 (September 1968): 299-308.

Discusses the impact of television upon children. The section on that topic in the first chapter draws upon this well written and provocative article.

Heider, F.K., and Grace M. Heider. "A Comparison of Sentence Structure of Deaf and Hearing Children," *Psychological Monographs,* 52 (1940): 42-103.

*Hoetker, J. *Dramatics and the Teaching of Literature.* NCTE/ERIC Studies in the Teaching of English. Champaign, Ill.: NCTE, 1969. (ERIC Document 028 165)

Has a section on uses of drama in the elementary school.

Horowitz, M.W. "Organizational Processes Underlying Differences between Listening and Reading as a Function of Complexity of Material," *Journal of Communication,* 18 (1968): 37-46.

Suggests listening is freer from the stimulus than reading and more prone to distort the material conveyed, a looser and less inhibited process. It can also be more in tune with thought as it occurs than reading.

Houston, Margaret D. "A Language Arts Program for a Fourth Grade of Culturally Deprived Children." Unpublished Master's thesis, East Tennessee State University, Johnson City, Tenn., 1964.

Gives suggestions for the teacher on direction giving, questioning, give and take conversation, and the nonverbal ways of communicating of children in this study.

*Kellogg, R.E. "A Study of the Effect of a First Grade Listening Instructional Program upon Achievement in Listening and Reading." USOE Cooperative Research Project 6-8468. San Diego, Calif.: Department of Education, San Diego County, 1966. (ERIC Document 012 232)

Kelly, C.M. "Listening: Complex of Activities—and a Unitary Skill?" Reply by C. T. Brown, *Speech Monographs,* 34 (November 1967): 455-66.

Cautions and directions for research. Raises questions about the state of knowledge basic for listening instruction.

Kirkton, Carole M. NCTE/ERIC Report "Classroom Dramatics: Developing Oral Language Skills." *Elementary English,* 48 (February 1971): 254-61.

Reviews recent literature and gives additional references.

Kirshner, Gloria. "'Start Where the Child Is'—Using Television to Teach the Child," *Elementary English,* 46 (November 1969): 955-58.

Klee, Loretta E. "Larger Horizons for the Child: A Fourth Grade Experiment," *Social Education,* 13 (February 1949): 69-71.

Demonstrates that stereotypes of foreigners remain difficult to change through social education.

Lundsteen, Sara W. "Language Arts in the Elementary School," in *Teaching for Creative Endeavor,* edited by W. B. Michael. Bloomington: Indiana University Press, 1968.

Contains a creative problem-solving approach to teaching listening. Describes activities and gives some brief notes on what research says to the teacher.

Lundsteen, Sara W. "Research in Critical Listening and Thinking: A Recommended Goal for Future Research," *Journal of Research and Development in Education,* 3 (Fall 1969): 119-33. (a)

Lundsteen, Sara W. "Critical Listening Research and Development: Listen-Tests, Curriculum, and Results for the Thinking Improvement Project," in *Highlights of the 1968 IRA Preconvention Institute II: Critical Reading and Listening.* Salt Lake City, U.: Exemplary Center for Reading, 1969, pp. 43-70. (b)

Lists objectives in tentative sequence for a general listening program and a critical listening program. Describes tests and reports experimental results.

Lundsteen, Sara W. *Basic Annotated Bibliography on Listening. NCTE/ERIC,* 1111 Kenyon Road, Urbana, Ill. 61820, 1969. (c)

Copies are available free on request (limited supply).

Lundsteen, Sara W. "Manipulating Abstract Thinking as a Subability to Problem Solving in a Problem Solving Context of an English Curriculum," *American Educational Research Journal,* 7 (May 1970): 373-96.

Describes the major analysis in the Thinking Improvement Project, one portion of which was devoted to promoting listening skills as a subability to creative problem solving.

*Lundsteen, Sara W. "Promoting Growth in Problem Solving in an Integrated Program of Language Skills for Fifth Grade." Paper presented at the Annual Meeting of International Reading Association, Anaheim, California, May 1970. (ERIC Document 045 304) (a)

Describes problem solving ingredients and measurement with sample ratings.

Lundsteen, Sara W. *Children Learn to Communicate.* Englewood Cliffs, N.J.: Prentice-Hall, forthcoming.

Intended as an elementary language arts textbook for teacher training, there are several chapters dealing with listening which served as the basis for this report. The central focus of the book is an approach to the language arts through creative problem solving for which listening is one subskill.

Marks, E., and G.A. Noll. "Procedures and Criteria for Evaluating Reading and Listening Comprehension Tests," *Educational and Psychological Measurement,* 27 (Summer 1967): 335-48.

*McCullough, Constance M. *Preparation of Textbooks in the Mother Tongue.* Newark, Del.: International Reading Association, 1968. (ERIC Document 011 826)

See "Thought Patterns in Expository Writing," (pp. 98-114) which also can be applied to spoken discourse and give dimensions to listening comprehension skills.

McKee, Norma. "Susan, Touch Your Toes," *Texas Outlook,* 52 (May 1967): 58.

Describes use of principal's intercom loudspeaker for listening practice.

Monaghan, R.R., and J.G. Martin. "Symbolic Interaction: Analysis of Listening," *Journal of Communication,* 18 (June 1968): 127-30.

Poses two main questions: What is an effective listener? and What are the distinguishing characteristics of persons who are effective listeners and those who are not? Draws up a working list of topics and some references which might provide an outline for study at the college level. Sample research strategies generated: Repertory Grid projective devices, inferences of hypnagogically-induced images.

Morris, C., and R. Harrison. "Information as a Construct in the Study of Communication." Paper presented to the National Society for the Study of Communication, New York, April 1968.

Presents ways "information" has been used as a construct and suggests new avenues of research in human communication, especially tapping the internal storehouse of knowledge and prior learning for a given individual through projective techniques and suggests study of time and order, action and reaction to a communication situation.

Neisser, U. *Cognitive Psychology.* New York: Appleton-Century-Crofts, 1967.

*Oakland, T. "Relationships between Social Class and Phonemic and Nonphonemic Auditory Discrimination Ability." Paper presented to

the American Educational Research Association, Los Angeles, Calif., February 1969. (ERIC Document 031 383)

Olsen, J. "How to Help Your Pupils Pay Attention," *Grade Teacher*, 84 (September 1966): 148+.

Suggests that listening requires training and is not governed by IQ. Teachers can build listening activities into regular work by remembering that interesting topics make interested listeners, and that they should use materials, articles, stories, and essays related to any field pupils are studying. Gives suggested activities.

Orange County, California, Office of the Superintendent of Schools. *Children and Listening Centers: Why, How, What.* Orange County Schools, 1966.

Examines ways children may use listening centers more creatively.

Orr, D.B., and W.R. Graham. "Development of a Listening Comprehension Test to Identify Educational Potential among Disadvantaged Junior High School Students," *American Educational Research Journal*, 5 (March 1968): 167-80.

Describes the development of a listening comprehension test based upon the hypothesis that for disadvantaged children a listening test with appropriate content would prove significantly more suitable than the usual aptitude or achievement tests as a measure of their academic potential.

Ostermeier, T.H. "An Experimental Study on the Type and Frequency of Reference as Used by an Unfamiliar Source in a Message Effect upon Perceived Credibility and Attitude Change." Unpublished Ph.D. dissertation, Michigan State University, 1966. *Abstracts of Dissertations in the Field of Speech*, 1966; *Speech Monographs*, 34 (1967): 257.

Pflaumer, Elizabeth M. "A Definition of Listening." Unpublished Master's thesis, Ohio State University, 1968.

Describes and includes a Q Sort, a measure by which an individual can create a visual model of his attitude about topics and situations as he describes it by sorting statements into piles. The author related Marshall McLuhan's concepts of "implosion" and "self-amptation" to findings. A unique addition to the literature.

Piaget, Jean. *Science of Education and the Psychology of the Child.* New York: Orion Press, 1970.

Reuter, A. "Listening Experiences: Instructional Materials Center Dial-A-Tape System Advances Learning," *Elementary English*, 46 (November 1969): 905-06.

Robeck, M.C., and J.A.R. Wilson. *Psychology of Reading: Foundations for Instruction.* New York: Wiley, forthcoming.

Chapter six contains a discussion of auditory perception including a suggested sequence for learning decoding, discrimination, association of sound and letter, a discovery technique of teaching association so that the child is made ready for conceptualizations of the structure of word parts. This technique includes self-discovery of the sound-letter relations in order to promote transfer to new situations.

Ruddell, R.B. "Oral Language and the Development of Other Language Skills," *Elementary English,* 43 (May 1966): 489-98.

Reviews a number of studies on the relationship between listening and reading as well as other linguistic relations.

Russell, D.H. "A Conspectus of Recent Research on Listening Abilities," *Elementary English,* 41 (March 1964): 262-67.

Summarizes the state of the knowledge base for improving listening abilities to 1964. A comprehensive and carefully wrought review.

Russell, D.H. and Elizabeth F. *Listening Aids through the Grades.* New York: Bureau of Publications, Teachers College, Columbia University, 1959. 112p.

Contains the most complete and comprehensive collection of listening activities in existence. Divided into primary and intermediate grades and into levels of listening skill. Informative introduction includes an analysis of similarities and differences between reading and listening. Over 100 activities listed.

Russell, D.H., and H.R. Fea. "Research on Teaching Reading," in *Handbook of Research on Teaching,* edited by N.L. Gage. Chicago: Rand McNally, 1963.

See section on auditory perception.

Samuels, S.J. "Factors Which Influence the Word Recognition Process of Skilled Readers." Paper presented at National Reading Conference, Atlanta, Georgia. December 4, 1969. *Nineteenth Yearbook of the National Reading Conference.* (Forthcoming)

Contains sections on active process; context; a three-stage model for recognition (information use, hypothesis, test procedure); meaningful material—all of which are relevant also to the listening process.

Science Research Associates. *The Listening Skills Program.* Palo Alto, Calif.: Science Research Associates, 1969.

Presents a multi-level and multi-skill program for each grade level 1-9. Skills include auditory discrimination, story sequence, main idea, cause and effect, creative listening and critical listening on tape, record or cassette. Includes teacher manual for each level.

Smith, T.W. "Auding and Reading Skills as Sources of Cultural Bias in the Davis-Eells Games and California Test of Mental Maturity,"

Unpublished Ph.D. dissertation, University of Southern California, 1956.

(Excerpted in *Listening Readings*, edited by S. Duker, 1966.) Found listening skill (as well as reading skill) shows significant source of intelligence test bias when the Gates Silent Reading Test and the memory section of California Mental Maturity Test were administered orally at varying cultural levels.

Solley, C.M., and C.M. Murphy. *The Development of the Perceptual World*. New York: Basic Books, 1960.

Spearritt, D. "A Factorial Analysis of Listening Comprehension." Unpublished Ph.D. dissertation, Harvard University, 1961. Also: *Listening Comprehension—A Factorial Analysis*. ACER Research Series No. 76. Melborne, Australia: Australian Council for Educational Research, 1962.

A factor analysis, apparently yielding a "listening comprehension" factor, employed correlations from thirty-four tests given to 300 sixth-grade pupils.

Stark, J. "An Investigation of the Relationship of the Vocal and Communicative Aspects of Speech Competency with Listening Comprehension," *Speech Monographs*, 24 (June 1957): 98-99.

Stern, Carolyn. "Children's Auditory Discrimination Inventory (CADI)." Occasional paper. University of California, Los Angeles. June 1969. (mimeo)

Describes the problems in constructing an auditory discrimination inventory, especially regarding deprived children, and the development of a new one.

Stewig, J.W. "Language Growth through Creative Dramatics." Paper presented at National Conference on the Language Arts in the Elementary School, NCTE, St. Louis, Missouri, March 7, 1970.

Discusses creative improvisation and interpretation, an exemplary program, vocabulary growth, paralanguage, kinesics, spontaneous oral composition, and gives many references.

•Sticht, T.G. *Learning by Listening in Relation to Aptitude, Reading and Rate-Controlled Speech*. Technical Report 69-23, HumRRO Division No. 3, December 1969. (P.O. Box 5787, Presidio of Monterey, Calif. 93940) (ERIC Document 037 666)

Has conducted many researches in the area indicated by the title with male adults. Now planning research using children. Found that moderate degrees of speech compression (275 wpm) may improve listening efficiency (amount learned per minute of listening) for men of high, average and low aptitudes unless material is of very low redundancy. Also see Professional Paper 4-70, "Studies on the Efficiency

of Learning by Listening to Time Compressed Speech," February 1970; and Technical Report 71-5, "Learning by Listening in Relation to Aptitude, Reading, and Rate-Controlled Speech: Additional Studies," April 1971.

Stiggins, J., Linda K. Allal, M.J. Gordon, and J.L. Byers. "Effectiveness of Verbal Communication among Elementary School Pupils, Teachers and Teacher Aides." Paper presented to the American Educational Research Association, New York, 1971.

Describes a study among first and third-grade black pupils at an inner city school which had instituted mixed-age "family" grouping at the start of the school year. Teacher aides comprehended pupil speech as effectively as teachers. Older pupils do not appear to be able to replace adults as the most effective source of information for completion of a picture designation task, but the older pupils offered better instructional assistance than the first-grade listener's peers. (Report available from Prof. Joe L. Byers, 462 Erickson Hall, Michigan State University.)

*Strickland, Ruth G. "The Language of Elementary School Children: Its Relationship to the Language of Reading Textbooks and the Quality of Reading of Selected Children," *Viewpoints,* Bulletin of the School of Education, Indiana University, 38 (1962). (ERIC Document 002 970)

Reference to listening found on pages 85-86.

Tapp, J.L. "Children Can Understand Rumor," *Social Education,* 17 (April 1953): 163-64.

A description of a lesson.

Taylor, C.W. "Listening Creatively," *Instructor,* 73 (February 1964): 5, 103-04.

Suggests that a set of a person's mind can affect the creativeness of his reception. Listening to learn and master information differs from listening to stimulate one's own creative thinking and imagination. Gives suggested activities.

Taylor, C.W., W.R. Smith, B. Ghiselin, B.V. Sheets, and J.R. Cochran. *Identification of Communication Abilities in Military Situations.* USAF WADC Technical Report, 1958, No. 58-92.

*Taylor, S.E. *Listening: What Research Says to the Teacher, #29.* Washington, D.C.: National Educational Association, 1964. 33p. (ERIC Document 026 120)

Indicates how research findings may help with the problems of the classroom teacher. Covers factors which may influence hearing, listening, and auding. Suggests a program to improve listening. The

section in this monograph on operational definition draws upon information in this pamphlet.

Thayer, L. "Theory-Building in Communication: IV. Some Observations and Speculations." Paper presented at the Sixteenth Annual Conference of the National Society for the Study of Communication, New York, April 1968.

Tyler, Louise L., and Frances M. Klein. *Recommendations for Curriculum and Instructional Materials.* Los Angeles: Tyler Press, 1971.

Guidelines for evaluating curriculum materials. The recommendations specify approved ideas in seven categories: general, specifications, rationale, appropriateness, effectiveness, conditions, and practicality. Recommendations within each category are designated essential, very desirable, and desirable.

Wilkinson, A. "Listening and the Discriminative Response," *California English Journal,* 5 (December 1969): 7-20.

Discusses various registers and situations in discourse, the difference between spoken and written language, the implications for testing, the teaching of oracy (as a counterpart to literacy), and gives samples from interesting tests developed in England.

Wilt, Miriam E. "Teach Listening?" *Grade Teacher,* 81 (April 1964): 51, 93-94.

Suggests ways to prevent deterioration in listening skills which occur as children learn to read and write. Lists of activities and means of informal measurement are presented by one of the pioneers in the field.

Witkin, Belle R. "Auditory Perception—Implications for Language Development," *Journal of Research and Development in Education,* 3 (Fall 1969): 53-68.

Presents recent research, describes new tests and materials, and gives implications for education in the areas of (1) attention to competing messages, (2) compressed speech or increase in rate of material, (3) auditory discrimination, and (4) auditory sequencing. Most of the recent and significant references in these areas are mentioned in this article and were excluded from the present bibliography. Other articles in the Fall issue also deal with listening.

APPENDIX

These next pages give an idea of a series of sample, prototype listening lessons from the Thinking Improvement Project. The name of the first lesson is "What Is the Difference between Listening and Hearing?" It could be adapted to fit third through sixth grade level. The teaching-questioning strategy for the sample lessons was described in the fourth chapter.

Lesson 1

Objectives for Learners

Challenge to the Teacher

- By using focused questions the teacher begins to help children to distinguish between the concepts of hearing and listening.
- The teacher begins to diagnose listening boundaries of pupils in her class.
- The teacher asks questions designed to assist the areas of cognitive readiness, reinforcement, and transfer in pupils.
- The teacher listens to and observes children—with special depth for five pupils chosen at random.

Challenge to the Pupils

- The pupil lists sounds and calls them out.
- The pupil discriminates: Those sounds they may hear uncomprehendingly, those they hear *and comprehend.*
- In sum, the child distinguishes the concepts "hearing" versus "listening": he identifies, names, describes, discriminates, groups and labels nonverbal and incomprehensible sounds in contrast to verbal messages that he does comprehend.

Materials

Chalkboard or overhead projector, paper, pencils for children, and pupil evaluation pages. (Optional: model of the human

ear, tuning fork, a box of noise-making articles hidden behind a screen or bulletin board [or five boxes, if you are going to have small groups in your class], tape recording of noises, human and otherwise.)

You might wish to start this lesson by reading the following poem, the poem "The Sounds of a Buzz" at the end of Lesson 39, or you might prefer one of the other five suggestions on the next page.

THE SOUND OF THE SEA*

What fun it is to hear the sea,
When one cannot be there,

. . . etc.

Sara Brandon Rickey

*Copyright © 1968 by Sara Brandon Rickey.

Lesson Plan

To start this lesson you might pass out the pupil evaluation page to be set aside; then to activate, you might do one or more of the following:

1. Hold up a model of the ear.
2. Give a piercing scream.
3. Play a bit of a tape recording with a weird mixture of sounds and verbalization such as one of the McLuhan records or one of voices of children speaking in different languages such as the one from the Department of Education, University of Hawaii, or the record, "Our Changing Lan-

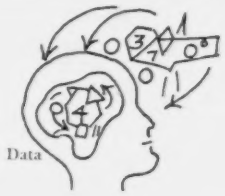
guage," side two, "Regional Dialects," published by McGraw-Hill, 1965.

4. Simply ask the first question.

5. Prearrange to have several children suddenly contribute intelligible and unintelligible noises.

Directions to teacher and space for comment on lesson	Suggested Question Hierarchy	Teaching-learning approach and space for comment
Call on children rapidly, several for the same question.	What happened when you heard that sound? (I am not looking for one particular answer. I'd like for as many of you as possible to respond as quickly as you can.)	*Cognitive Readiness* Activation, openness, verbal fluency
	What do you think the word *hear* means?	
	What do you think the word *listen* means?	Focus: Diagnosis of pupil concept boundaries
Seek multi-level responses, i.e., children with high, medium, and low ability in verbal skill.	Who else has an idea?	
	Anyone add anything to that idea?	
	Someone else?	Extend

If it is not a burden for your children to write, ask them to write responses, then you and they have a permanent basis for individual feedback. Or you can capture responses for analysis with a tape recorder. Later pupils can examine several dictionaries.

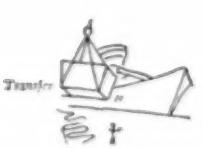
Directions	Question hierarchy	Approach
	Close your eyes so that you can hear better if you like. When I give the signal, listen; when I give the next signal, try to write or draw what you hear.	 Data

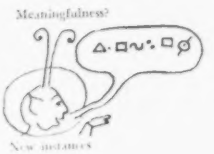
For approximately three minutes expose the class to some comprehensible verbal and nonverbal sounds. Say a few words clearly, mumble a few incomprehensibly, have other sounds from a hidden box that are not comprehensible. Examples of sounds are: shutting a window, pulling down the map, speaking, mumbling, moving desk articles in a hidden box, moving a chair, shoving a waste basket, stumbling, closing a file, dropping a book, crunching up paper, moving chalk on board. Try to have a list so that you know how many and what kinds of sounds you made.

List sound heard on board or use overhead projector.	Look at your list or drawings of the sounds you heard. Choose one; call it out. Can you give me a sound?	Data
Again, seek multilevel response and get as many as you can without boredom.	What else did you hear?	Extend
	Can you group any of these sounds?	Focus: grouping of sounds comprehended or not comprehended.
	What sounds would go together? Why?	
Use a coding system to mark the sounds that are similar and should be grouped, e.g., a star for all spoken sounds, etc.	What sounds were similar?	
	Were any spoken sounds?	
	Were any of the sounds ones you heard but did not understand? What?	
	(Accept and respect any answer.)	

Directions	Question hierarchy	Approach
Ask children to try to do this first on their own list or pupil page.		
Mark these in this new group with another symbol.	Did you hear any spoken sounds that had meaning for you? What?	
Seek multi-level response.	Can you group any other sounds?	
Examples of groups: talking sounds, non-talking, in-door, out-door, meaning-ful, not mean-ingful.	Can you give a name or a label to any of your groups?	Focus: lift to labeling
Do not give answers yourself. You will have many opportunities to work on this grouping and labeling process with children. Wait, and if no response comes, accept no response. You might try rephrasing the question or in some cases going on to the next question, or going back to more data.		
Point to the group of sounds heard but not under-stood. And point to the group of sounds under-stood.	What is the difference between these two groups?	Focus: differentiating concepts
	Someone else tell us. What do you think?	Extend
	What could you label these two groups?	

Directions	Question hierarchy	Approach
Write two terms on the board, *listening* and *hearing*. Name the child *after* asking the question.	Many labels could be used. I'm going to give you two labels that will be used in the next lessons. Some people use the term *listening* when they mean more is going on in your head or in your thinking space than just physically hearing.	Focus: teach given terminology for consistent use—given pupils have processed data and appear to have differentiated the two ideas.
Wait and give time to think.	Some people use *hearing* to refer to just what happens to your ear drums when sound waves hit them. You can hear without understanding.	
	Can you give me examples to go with each of these words? *Hearing? Listening?*	*Reinforcement*
Let the child, not the teacher, repeat if all cannot hear.	Who can help us sum up what we did today? Do you agree? What does *listening* and *hearing* mean to you now? Would you want to take another color pencil and change or add to your definition? What did you get out of this activity? What could you tell an absent classmate we learned?	



Directions	Question hierarchy	Approach
	What did you understand? When would it be important to listen rather than just to hear?	
Make outside enrichment assignment. Children can talk about results of this assignment and interact in small groups.	Outside of this period, would you collect examples of sounds you hear and don't understand and sounds you do understand and listen to and what happened.	
Note: *This collected list will be used again in Lesson 28.* Have pupils save.	As you collect sounds you may find some other groupings that tell you more about your listening or hearing skill. Try to hunt for them and label them.	New instances

Evaluation

Teacher with Pupil

Collect lists and definitions from pupils if any were written. Use a class roll sheet with a column for each lesson; randomly pick five children from the room and interview them about this lesson.

1. Examine their definition of listening and hearing. See if they changed their ideas about listening and hearing.
2. Notice whether or not they recorded the sounds, drew pictures, or did nothing. Find some success to praise.
3. Note how many sounds out of the total possible the child got.
4. Note if child attempted to make any grouping and labeling on his own.
5. Inquire about feelings and attitudes (e.g., ask, "How did you feel?").

For Teacher

☐ Did I begin to diagnose listening boundaries of individual pupils?

☐ Did I pace discussion so that various ability levels in the class had some opportunity to process data and group and label concepts for themselves?

☐ Was I mainly a question asker and not an answer giver?

☐ Did I and will I look for transfer of this lesson?

For pupil self-evaluation see the next page.

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Name_____ Date_____

Lesson 1

(Self-Evaluation)

Looking behind Me

To me now:

Hearing means_____

_____

Listening means_____

_____

Here is the list of (or pictures of) sounds I heard:

1. _____ 4. _____ 7. _____

2. _____ 5. _____ 8. _____

3. _____ 6. _____ 9. _____

Others

Did I give something this time to the class or group discussion about sounds? (Check a box.) Yes ☐ No ☐

Do I have any changes or additions I want to make about what *hearing* means and what *listening* means? Yes ☐ No ☐

(You can use the back for listing and grouping sounds you hear outside of class.)

Unit 2: Listening to Small Units*

How Do You Use Left-Over Thinking Space?

Lesson 2

Tips to Teachers

Until recent years most teachers have assumed pupil mastery of listening skill without planned instruction. Ninety percent of the research on listening has been done since 1952. In a survey in 1967 less than one percent of the content of textbooks was devoted to listening lessons. Your efforts are needed to improve this crucial portion of the language arts program.

In the last lesson your children began to distinguish *hearing*, the process by which sound waves are received and modified by the ear, from *listening*, being aware of the sound components and recognizing them as meaningful sound and speech sequences, i.e., not only the receiving of the sound but the interpreting of the sound.

Five to ten percent of children are handicapped in auditory acuity—the ability to receive sound waves of various tones and levels of loudness. You should closely observe any children in your room who speak too loudly, or too softly, have enunciation problems and problems with phonics. There is necessity for normal hearing or special provision if there is to be progress in listening skill.

This lesson extends the concepts of discriminating *listening* from *hearing* by examining the uses of left-over thinking space —the differential in the rate at which the message is delivered, i.e., moments it takes to simply hear the message and what happens to that unused time for thought. Also in this lesson pupils continue to group and label data received by their ears.

Objectives for Learners

Challenge to the Teacher

- The teacher continues to ask questions designed to shape

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pupil behavior: (1) testing their present knowledge boundaries, (2) operating with data, and (3) retesting their performance and progress. You continue to ask questions designed to probe cognitive readiness, reinforcement and transfer.

- The teacher continues to pace discussion carefully by: (1) exciting interest and *focusing* on one objective, (2) *extending* so that the idea is explored in adequate depth (and perhaps reinforced) and with a sampling of various levels in the group, (3) and then *lifting* the focus to a more complex thinking process, to the next level of abstraction, or to the next idea in a progression.
- The teacher continues to listen to the responses of the children and observe them intently.

Challenge to the Pupil

- The pupils identify, name, describe and discriminate what they do with left-over thinking space when they hear a message.
- The children attempt to estimate how much time it took just to hear and how much time they had left over for other things to go on in their minds.
- The pupil names something he contributed to the discussion (or could have contributed if he had had a chance in the large group).
- The child names any problems he may have noticed with the use of his left-over thinking space while attempting to hear and to listen.

Materials

Chalkboard or overhead projector;
Paper, pencils for children;
Blackboard drawing, chart, or drawing on overlay of a circle to be used as a model of left-over thinking space;
Any sounds that the students collected, grouped, and labeled outside of class after lesson 1, or the lists from the last lesson on pupil self-evaluation sheets;
Pupil evaluation page "Look behind Me" for lesson 2.

Lesson Plan

Directions to teacher and space for comment on lesson	Suggested Question Hierarchy	Teaching-learning approach and space for comment
Again there could be many ways to excite interest in this lesson. 1. If there is excitement about the sounds the children were asked to collect, group, and label in the last lesson, use these as lead-in data. 2. If not, you could use the poem, "People Crackers (For Meter Reader Eaters)," provided at the end of this lesson. 3. If there is still excitement over the sounds produced for data in the last lesson, you could use some of these again.		
Write on board or use overhead projector.	Who has some sounds they heard outside of class and wants to share them with us?	*Cognitive Readiness* Openness, fluency, Activation
Note: Pupils should save these lists of sounds as they can be used again in lesson 28.	How did you group them? Was it important to listen to any of them rather than just to hear? I would like for you to begin to notice the kinds of questions I ask because some of you will be playing my role soon and asking the same types of questions.	 Teacher prepares for pupil autonomy
If children are familiar with circle or pie diagrams for fractions in math, you have the necessary prerequisites for the next part of this lesson. If not, you may wish to build up this prerequisite first or alter this part of the lesson using another analogy instead.		
Give each child a copy of the pupil page with	Do you have any idea what I mean when I say use your left-over	Focus: Diagnosis of concept boundaries

Directions	Question hierarchy	Approach
the pie or circle on it.	thinking space well when you listen?	
	I will give you something to listen to now by talking to you. Ready. Listen. I want you to try to make a guess as to how much time it takes you to just hear and how much time you have left over to think thoughts. Make your best guess.	
	Take your pencil and mark lightly the size of the wedge you think it takes you just to hear a message delivered at a normal rate of speed.	Data
Repeat what you just said in your normal speaking voice —not too fast, you might have to repeat several times.	For example as I am talking now what kind of thought space do you have left?	Data
Assist pupils to draw whatever wedge they think should be cut out of the circle.	Label your wedge *Hearing.*	
	Now when I was talking tell us what thoughts were racing through your mind?	Openness, fluency (You might confess what was in your mind to get them started.)
Call on many pupils for the same question.	There are no right answers.	
Write responses on board. Sample responses: "I was	I am not looking for any special answer in this lesson.	

Directions	Question hierarchy	Approach
thinking my pencil needed sharpening." "I was still feeling mad at my brother." "I was wondering if I got the wedge right."	Can more of you tell us?	Extend
	Can we group any of these things that fill up our left-over thinking space?	Focus—lift to grouping and labeling.
	Anyone else?	Extend
Remember do not give answers yourself. This is the children's time to give answers. Any answer is accepted and recorded for all to see and think about.	Are any of them a help to us?	Focus: Standard for use of left-over thinking space.
	Are any of them destructive?	
	Can you control them when you need to? How?	
	Would you like to try to analyze your left-over thinking space again with this poem, "People Crackers"?	*Reinforcement* Data

Read the poem, "People Crackers," or something else better suited to your group.
Read normally; you may have to read a little *slowly* for some groups so that there is some left-over thinking space.
You might let someone in the class try asking the same types of questions you just asked before and let the other members of the class help him. You will probably have to help, too. The pupil's circle device for recording use of thinking space may be reproduced and used many times.

Write responses for all to see as pupils say them.	What thoughts were racing through your mind when I read that poem?	Focus: Concept of left-over thinking space.
	Can more of you tell?	Extend

Directions	Question hierarchy	Approach
	Can we group any of these? More?	Focus: Grouping and labeling Extend
(e.g., questions, purposes, organization)	Which kinds help you get more out of the poem? Others?	Focus: Standard for use of left-over thinking space.
	Which kinds detract from the purpose you set for listening? Any more?	Extend
	How can you control distracting thoughts? What could you do? And you?	Focus: Using the standard. Extend
Assist pupils to take pencils and draw sketches in the rest of the circle. After they have attempted, you can show your model given at the end of this lesson, if you wish.	Can you draw some pictures in the rest of your circle diagram that would show some desirable things to do with your left-over thinking space?	
	Who can summarize (tell) what we did today?	Direction
	What did you learn or think about that you hadn't thought about before?	
	Why is there a difference between hearing and listening?	
	Were you better with your left-over thinking space the second time? Why? or why not?	Retesting
	How can we evaluate ourselves?	
	What were some of our successes?	

Directions	Question hierarchy	Approach
	What should we do next? Who can summarize?	Direction

A summary might run something like this: Some people say that normally it only takes about ten percent of our total thinking time to just hear a message, just a small part of this circle representing time to physically hear a sound. We listed many things that we do with our left-over thinking space or time. We found some things you can do to aid your understanding or listening during that time. These were: to have questions in your mind, purposes, try to organize and keep the sequence, picture related ideas that help you understand, and try to use standards, e.g., "helpful" and "not helpful" to judge by.

	What did you understand about this lesson?	
	How could you use this idea of keeping a watch on your left-over thinking space someplace else?	*Transfer* Understanding Set for Transfer
	What else could you try?	Extend
Make assignment for outside enrichment, unless—you don't want to overburden pupils with surveys.	Those of you who would like to, keep a record at different times during the day of what happens to your left-over thinking space and what progress you make in controlling it for better listening, if you need to control it.	New instances

Ask children to fill out their self-evaluation page, "Look behind Me," and to file it for further reference with their other records for these lessons.

Evaluation

Teacher with Pupil

1. Again select five pupils *randomly*. Use the class roll sheet with a column for lesson 2.
2. Ask what they think "left-over thinking space" means.
3. Ask what they felt they contributed to the discussion (or could have if they'd had a chance).
4. Ask what special problem they may have noticed with their use of left-over thinking space—
   a. Day dreaming?
   b. Not focusing?
   c. Not organizing?
   d. Not having experiences to relate to the listening?
   e. Private planning of something else?
   f. Being easily distracted?
   g. Failure to start listening right away?
   h. Other?
5. Check what groupings they were able to make with the data of what happened to left-over thinking space.
6. Be sure to notice some successes, e.g., responding to a question, asking a question.

For Teacher

☐ Can I check off most of the objectives for myself given at the beginning of the lesson?

PEOPLE CRACKERS*

(For Meter Reader Eaters)

If people can eat crackers
In every animal shape

. . . etc.

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Sara B. Rickey

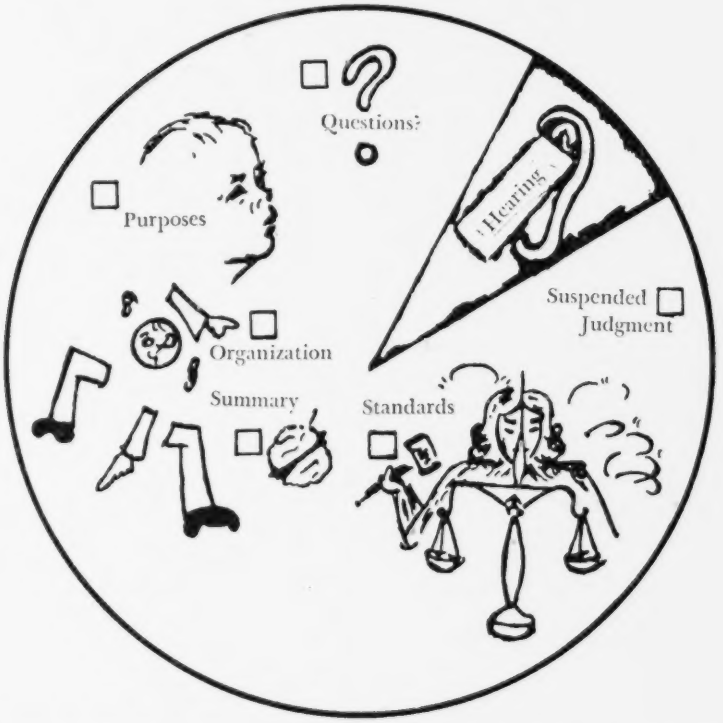
What goes on in your left-over thinking space when you hear this poem?

Enrichment: Communication in Pairs

1. Have the children each pick a partner they don't know very well. But be sure there is mutual agreement that the choice is all right.
2. Two children sit back to back without looking at each other and have a conversation. They can take their chairs outside or sit on the floor. Before you go out, you could discuss how to keep a conversation going. On the other hand, it may be a more vivid experience to let them have the problem of communicating with each other. Then they will feel more need for this two-way skill. Then they could try it face to face.
3. When they come back to the large group, they are to introduce each other and to say "nice" things.

This enrichment activity is a good preparation and lead-in activity for lesson 3 and can be repeated several times.

THINKING SPACE



You normally use only about ten percent of your thinking space for hearing.

What Do You Do with Your Left-Over Thinking Space?
Add to this chart.

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